EcoStruxure Micro Data Center C-Series, 43U

Installation

APC™

Schneider Electric™
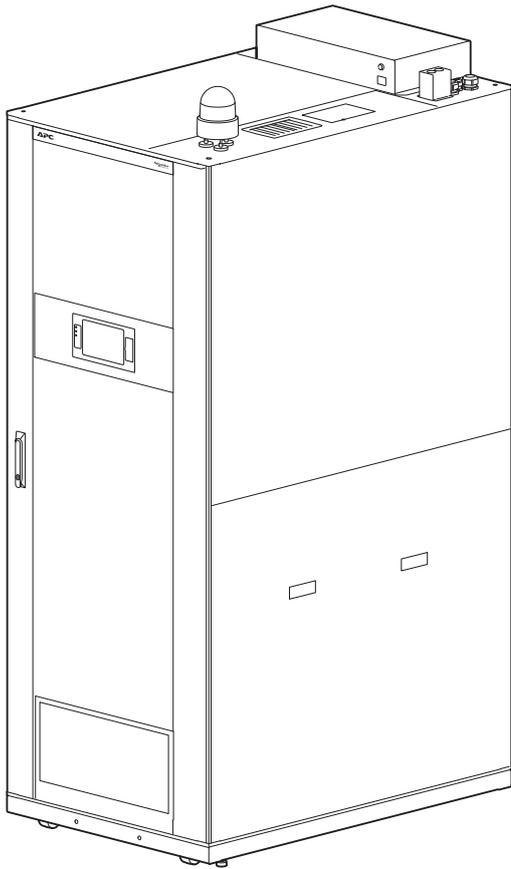
Legal Information

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this guide are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this material or consequences arising out of or resulting from the use of the information contained herein.

APC and the APC logo, NetBotz, NetShelter, EcoStruxure, and Data Center Expert are trademarks of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

Table of Contents

Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a "Danger" or "Warning" safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert the user to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

Failure to follow these instructions can result in injury or equipment damage.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

Failure to follow these instructions can result in equipment damage.

Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Always abide strictly by local laws and regulations in force in the place of installation.

General Safety

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.

- The Micro Data Center is intended to be installed and operated by a skilled person in a controlled location with restricted access.

- The Micro Data Center must be installed in accordance with the National Electrical Code and all applicable local codes.

- Perform appropriate Lock Out/Tag Out procedures during equipment installation and maintenance.

- Remove incoming power to the Micro Data Center before performing any work. Because of the UPS, live power exists within the equipment when power is turned off at the input circuit breaker. Always use a properly rated voltage sensing device to confirm there is no voltage in the system.

- Wear appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E and follow all local codes and regulations.

- Do not insert anything into the fan grill.

Failure to follow these instructions will result in death or serious injury.

NOTICE

EQUIPMENT DAMAGE

- Only make equipment connections as directed in this manual.

- Do not use caustic detergents or abrasive materials to clean the sheet metal. A damp, soft cloth is usually sufficient to remove dust or debris.

- Do not block the Cooling Unit drain pipe.

- Only connect the Indoor Cooling unit to the pre-installed refrigerant pipes as instructed in this manual.

- Perform all commissioning checks, leak detection, and vacuum pumping procedures as directed in the documentation for your Cooling Unit.

- Never turn on Q7 and Q8 at the same time.

- Never turn on Q9 or Q5 when Q3 is on.

- Never turn on Q10 or Q6 when Q4 is on.

Failure to follow these instructions can result in equipment damage.

NOTICE

IMPROPER AIRFLOW

- Improper airflow can damage installed components. Verify that the system provides airflow needed by your equipment.

- Check the air filter regularly. Replace the filter when needed to prevent reduced airflow.

- Do not obstruct airflow by covering the fans.

Failure to follow these instructions can result in equipment damage.

ASHRAE has published guidelines for owners of Edge computing equipment such as your Micro Data Center. (Edge equipment performs computing outside of a commercial data center with strict environmental controls.) It is recommended that you follow these guidelines to help prevent equipment damage and extend the life of your Micro Data Center. You can download the guidelines from www.ashrae.org/technical-resources/bookstore/datacomseries.

NetBotz Safety

NOTICE

EQUIPMENT DAMAGE

- Connect only approved devices to ports on the appliance as directed in this manual. Plugging in other devices may result in equipment damage.

- Do not use crossover cables.

Failure to follow these instructions can result in equipment damage.

Cabinet Safety

The following are important instructions that must be followed during installation.

⚠ WARNING

TIP / HEAVY EQUIPMENT HAZARD

- The cabinet can be tipped. Use extreme caution when unpacking or moving.

- Use at least two people to unpack and move the cabinet.

- Do not load any equipment in the cabinet before moving the cabinet on its casters.

- When moving the cabinet on its casters, ensure the path of the cabinet is free of obstacles and debris.

- When moving the cabinet on its casters, make sure the leveling feet are up and push the cabinet from the front or rear. Never push the cabinet from the sides.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Labels

Look for additional safety information affixed to the EcoStruxure Micro Data Center. See Move the Cabinet, page 37 for label descriptions.

General Information

The base of the EcoStruxure™ Micro Data Center C-Series is a freestanding rack equipped with a power panel, environmental monitoring equipment, cable and airflow management tools, and a touchscreen display to monitor and configure the system. Additional equipment can be ordered separately and installed on site. This includes cooling equipment, Rack Power Distribution Units (Rack PDUs), Uninterruptible Power Supply (UPS) units, and optional accessories. Once the system is installed, you can monitor and control different settings through the front display, Web User Interface (Web UI), Command Line Interface (CLI), SNMP, Data Center Expert™ or EcoStruxure™ IT.

Documentation

The following documentation for each component in the EcoStruxure Micro Data Center is either shipped with the equipment or available on www.apc.com and www.se.com. You can search for documents by part number or by product. To search by product, enter the part number of the component in the Search bar, navigate to the appropriate product page, then select **Documentation**.

NOTES:

- A Network Management Card (NMC) is a piece of hardware that allows products to operate on the network. The EcoStruxure Micro Data Center and several other pieces of equipment contain NMCs, so some user documentation may refer to "the NMC" instead of the piece of equipment. For example, a Rack PDU manual may refer to "the IP address of the NMC" instead of "the IP address of the Rack PDU." *Security Handbooks* address NMC firmware applications and thus apply to all products with a specific model of Network Management Card.

- The NetBotz Rack Monitor 250 and the front display are shipped with firmware specific to the EcoStruxure Micro Data Center C-Series. Refer to the EcoStruxure Micro Data Center C-Series *User Guide* for instructions regarding this equipment. Firmware updates must be performed by service engineers with firmware for the EcoStruxure Micro Data Center.

- Documents are updated regularly. Check www.apc.com or www.se.com for updates to the documentation.

Cabinet and Pre-installed Accessories (AR4340IX500/AR4340IX500CP)

Component	Document type	Document part number
EcoStruxure Micro Data Center base components (AR4340IX500/AR4340IX500CP)	Unpacking (AR4340IX500) Unpacking (AR4340IX500CP)	990-6325 990-91486
	Firmware User Guide (online only)	990-91457
All products with NMC 2	Security Handbook for Network Management Card 2	990-4910F
All products with NMC 3	Security Handbook for Network Management Card 3	990-91251D-XXX
Energy Meter (A9MEM3150)	User Guide (online only)	DOCA0005EN-12
NetBotz Door Switch Sensor (NBES0303)	Installation	990-3375
NetBotz Smoke Sensor (NBES0307)	Installation	990-3377A
NetBotz Spot Fluid Sensor (NBES0301)	Installation	990-3294A
Temperature Sensor (AP9335T)	Installation	990-3505A
Temperature and Humidity Sensor (AP9335TH)	Installation	990-3506
Toolless Blanking Panels (AR8136BLK)	Installation	990-3043B
Toolless cable management rings (AR7540)	Installation	990-5003A

Cabinet and Pre-installed Accessories (AR4340IX500/AR4340IX500CP) (Continued)

Component	Document type	Document part number
NetShelter Mounting Rail Brush Strips, 750mm Wide (AR7706)	Installation	990-2453A
Toolless Hook and Loop Cable Managers (AR8621)	Installation	990-3326A
NetShelter Roof Brush Strip (AR7714)	Installation	990-3115A-XXX
Rotating Beacon with Buzzer (XVR12B05S) NetBotz Rack Monitor 250 (NBRK0250)	These items have custom configurations for the EcoStruxure Micro Data Center. Refer to the procedures in this manual and in the *User Guide* (990-91457).	

Cooling and Accessories

Component	Document type	Document part number
3.5 kW Rack mount Air Conditioning, Split system, Indoor unit with gravity drain, 50 Hz (ACRMD4KI-1)	User Manual	990-6186-XXX
3.5 kW Rack mount Air Conditioning, Split system, Outdoor unit with pre-charged refrigerant, 50 Hz (ACRMD4KI-2)		
3.5 kW Rack mount Air Conditioning, Split system, Outdoor unit without pre-charged refrigerant, 50 Hz (ACRMD4KI-3)		
3.5 kW Rack mount Air Conditioning, Split system, Indoor unit with gravity drain, 60 Hz (ACRMD4KT-1)	User Manual	990-6280-XXX
3.5 kW Rack mount Air Conditioning, Split system, Outdoor unit with pre-charged refrigerant, 60 Hz (ACRMD4KT-2)		
Condensate drain pump (ACAC10039)	Installation	990-91281B-XXX
Low ambient temperature kit (ACAC10040)	Installation	990-91280C-XXX
Rackmount Touch Screen Display Interface (ACAC10045)	Installation	990-9510-XXX

Rack PDU

Component	Document type	Document part number
Rack PDU, Basic, 0 U, 32 A, 230 V, (20) C13 & (4) C19 (AP7553)	Installation and Quick Start	990-1902A-XXX
Rack PDU 2G, Metered, 0 U, 32 A, 230 V, (36) C13 & (6) C19 (AP8853)	Firmware User Guide (online only)	990-5568L-XXX
Rack PDU 2G, Switched, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (AP8953)	Firmware User Guide (online only)	990-5569L-XXX
Rack PDU 2G, Metered-by-Outlet, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (AP8453)	User Guide (online only)	990-5571L-XXX
Rack PDU 2G, Metered by Outlet with Switching, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (AP8653)	User Guide (online only)	990-5570L-XXX
Rack PDU (all models)	Safety Information Sheet	990-3433F
	Release Notes (online only)	990-9958G
Rack PDU 2G (AP8853, AP8953, AP8453, AP8653)	Installation and Quick Start	990-3940C

UPS and Accessories

Component	Document type	Document part number
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack (SRV6KRIL-IN)	User Manual	990-91248A
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack (SRV6KRIL)	User Manual	990-91169
APC Smart-UPS SRT 6000 VA RM 230 V (SRT6KRMXLI)	Installation Operation (online only) Safety Information Sheet (online only)	990-5090F 990-4505D 990-2902G
APC Easy UPS 240 V Battery Pack for 5 & 6 kVA Online, Rack, Extended Runtime (SRV240RBP-9A)	Installation	990-91249
APC Easy UPS SRV 240 V RM Battery Pack for 6&10 kVA Rack, Extended Runtime (SRV240RLBP-9A)	User Manual	990–91177A
APC Smart-UPS SRT 192 V 5 kVA and 6 kVA RM Battery Pack (SRT192RMBP)	Installation Safety	990-4811F-XXX 990-2827H-XXX
APC Easy UPS RAIL KIT, 700 mm (SRVRK1)	Installation	990-91207
APC Smart-UPS SRT 19 in Rail Kit for Smart-UPS SRT 5/6/8/10 kVA (SRTRK2)	Installation	990-5288A
SRV Modbus card (SRVSMB001)	User Manual	990-9286
UPS Network Management Card 3 w/ Environmental Monitoring and Modbus (AP9643)	Installation Guide User Guide (online only) Command Line Interface help (online only) Release Notes (online only) Network Management Card 2 and 3 Modbus Documentation Addendum (online only)	990-9996J-XXX 990-91148E-XXX 990-91149C-XXX 990-6322E-XXX 990-5701A

Other Equipment

| Component	Document type	Document part number
NetBotz Handles		
HID 125 kHz Handle kit (NBHN125)	Installation	990-9868B-XXX
miFare 13.56 MHz Handle kit (NBHN1356)		
Gear box for NetBotz Rack Access Handles (NBHN4340)	Installation	990-91520
Automatic Transfer Switch, 20 A / 208 V, 16 A/230 V, C20 IN, (8) C13 (1) C19 OUT (AP4423)	Safety Information Sheet	990-9713E
	Installation and Quick Start (online only)	990-5852D-XXX
	Firmware User Guide (online only)	990-5844C
	Release Notes (online only)	990-91032F
17 in Rack LCD Console with Integrated 8 Port Analog KVM Switch (AP5808)	Quick start	990-3796B
	Installation and Operation (online only)	990-3770C-XXX
Fire Suppression System (ARFS600)	Manufacturer documents: Quick Start Manual and Log Book Features and Technical Specification Wiring Diagram for Redetec Accessories	Redetec/Rev.1.9a no part number no part number
19 in Black Modular Toolless Blanking Panels (AR8136BLK)	Installation	990-3043B
Horizontal Cable Manager, 1U (AR8602A)	Installation	990-4898A-XXX
NetShelter SX/SV Roof Brush Strip (AR7714)	Installation	990-3115A-XXX

NOTE: Documents for the Fire Suppression System are not available online. They are included with the Fire Suppression Unit.

Inventory

Upon receipt of the equipment, inspect for damage and notify the shipping carrier and Schneider Electric immediately if any damage is found. There will be several boxes containing various parts and accessory items. After opening a box, check the contents. Report missing or damaged components to: www.apc.com/support.

The shipping materials are recyclable. Save them for later use or dispose of them appropriately.

Cabinet Features
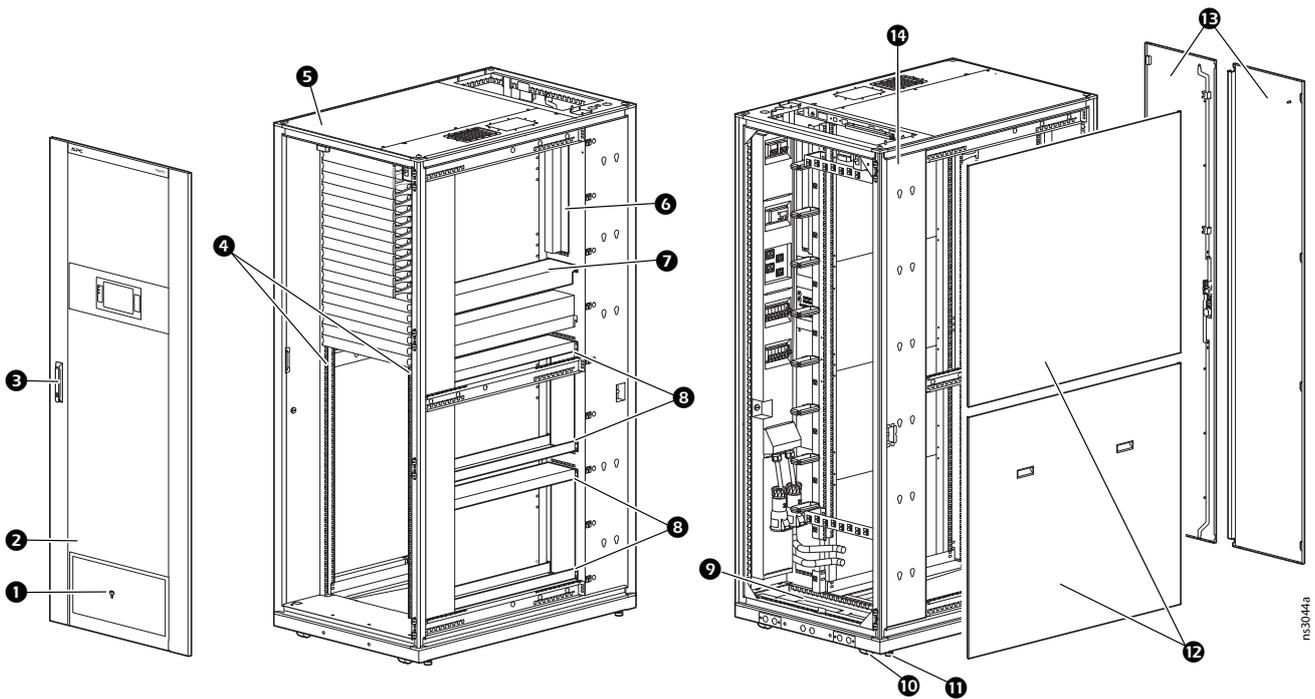
Item	Description	Item	Description
❶	Door keys (common to all EcoStruxure C-Series 43U units)	❽	3 U vertical mounting spaces and support brackets for UPS batteries and other equipment
❷	Front door with glass cover and perforation	❾	Rear cable compartment panel (see)
❸	Lockable door handle with 3-point locking mechanism	❿	Caster
❹	Vertical mounting rails for standard 19 in rack equipment	⓫	Leveling foot
❺	Roof cable compartment panel (see)	⓬	Removable side panels with internal locks
❻	2 U vertical mounting space for NetBotz and optional Automatic Transfer Switch	⓭	Rear doors, split, with 3-point locking mechanism in handle
❼	Cable pass-through for data cables from user components (for example, network switch in front to server ports in rear of rack)	⓮	0 U mounting space for Rack PDUs

Pre-installed Equipment and Cable Management Accessories
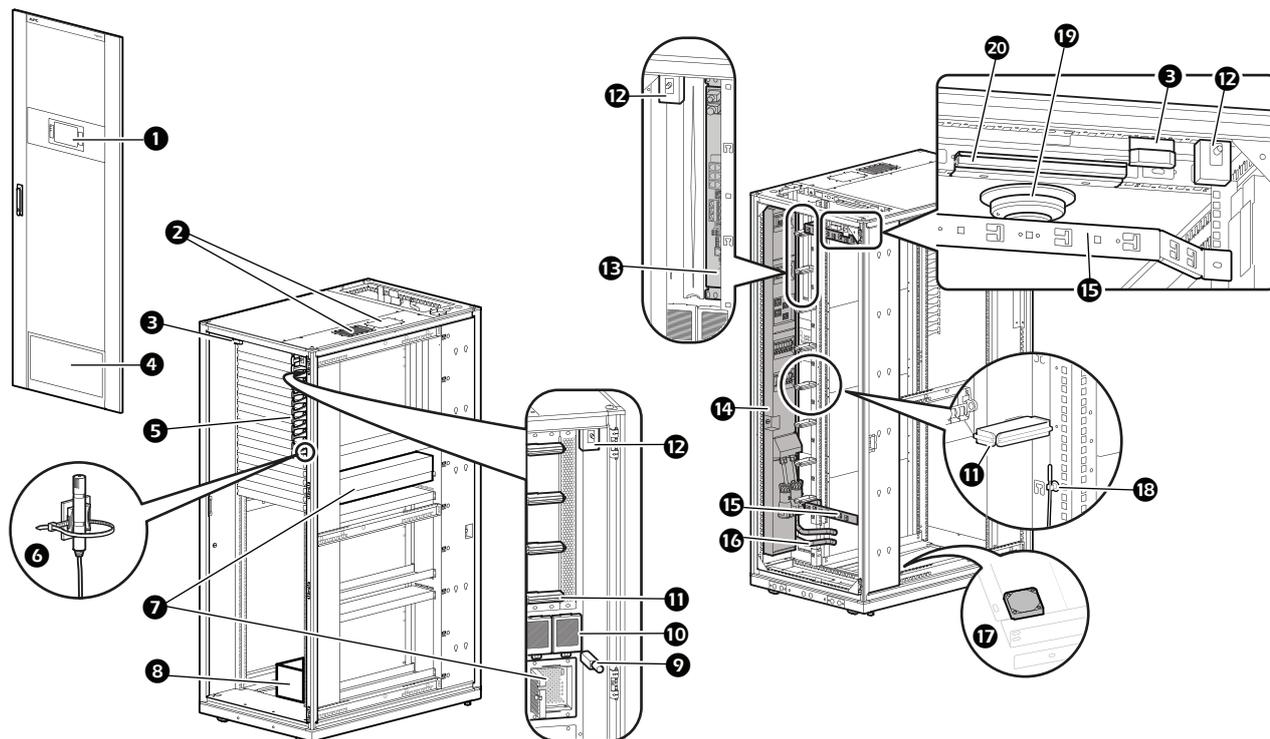
Item	Description	Item	Description
1	Front display (touchscreen)	**11**	Toolless Cable Management rings (AR7540, front/rear)
2	NetShelter Roof Brush Strip (AR7714) and knockout for additional Brush Strips (not included)	**12**	Light Switch (front/rear)
3	NetBotz Door Switch Sensor (NBES0303)	**13**	NetBotz 250 (NBRK0250)
4	Cooling fan — air intake	**14**	Power Panel
5	Finger cable managers	**15**	Brackets for cable management and optional smoke sensors
6	Temperature and Humidity Sensor (AP9335TH)	**16**	Cooling Pipes
7	Interface Card Box	**17**	NetBotz Spot Fluid Sensor (NBES0301)
8	Accessory box (see)	**18**	Temperature Sensor (AP9335T)
9	Flexible cable channel	**19**	NetBotz Smoke Sensor (NBES0307)
10	NetShelter Mounting Rail Brush Strips (AR7706) for entry/exit to cable pass-through	**20**	Cabinet lights (front/rear)

Accessory Box

NOTE: Some accessories may be stored next to the box in the bottom of the cabinet.
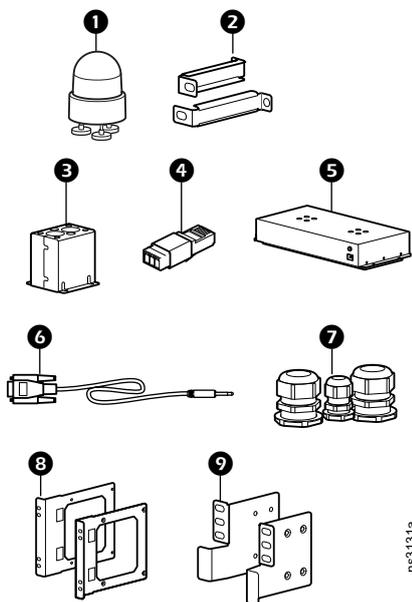
Item	Description
❶	Rotating beacon with buzzer (XVR12B05S) and accessory kit (0H-9623AA, not shown)
❷	Rear mounting brackets for cooling unit
❸	Top cover for cooling pipes
❹	RJ45 to 3.5 mm pitch adaptor for Easy UPS (included with MDC43UECSI, MDC43UBCSI)
❺	Cooling fan, exhaust
❻	Console cable, 2.5 mm to DB-9
❼	Covers for power input points (source A and B)
❽	Recessed Mounting brackets for Smart UPS (included with MDC43USCSI, MDC43UACSI)
❾	Recessed mounting brackets for Easy UPS (included with MDC43UECSI, MDC43UBCSI)
Not Shown	APC Smart-UPS SRT 1.5 m extension cable for 192 VDC external battery (SRT015)
	Cable ties
	Hardware bag (see Hardware Bag, page 15)

ns3131a

Hardware Bag

Plastic cup washer (60)   M6 x 16 Phillips slot screw (60)   Cage nut (60)

Torx T30 / #2 Phillips tool (1)   Cage nut tool (1)

Airflow Management Features

Rear view   Front view
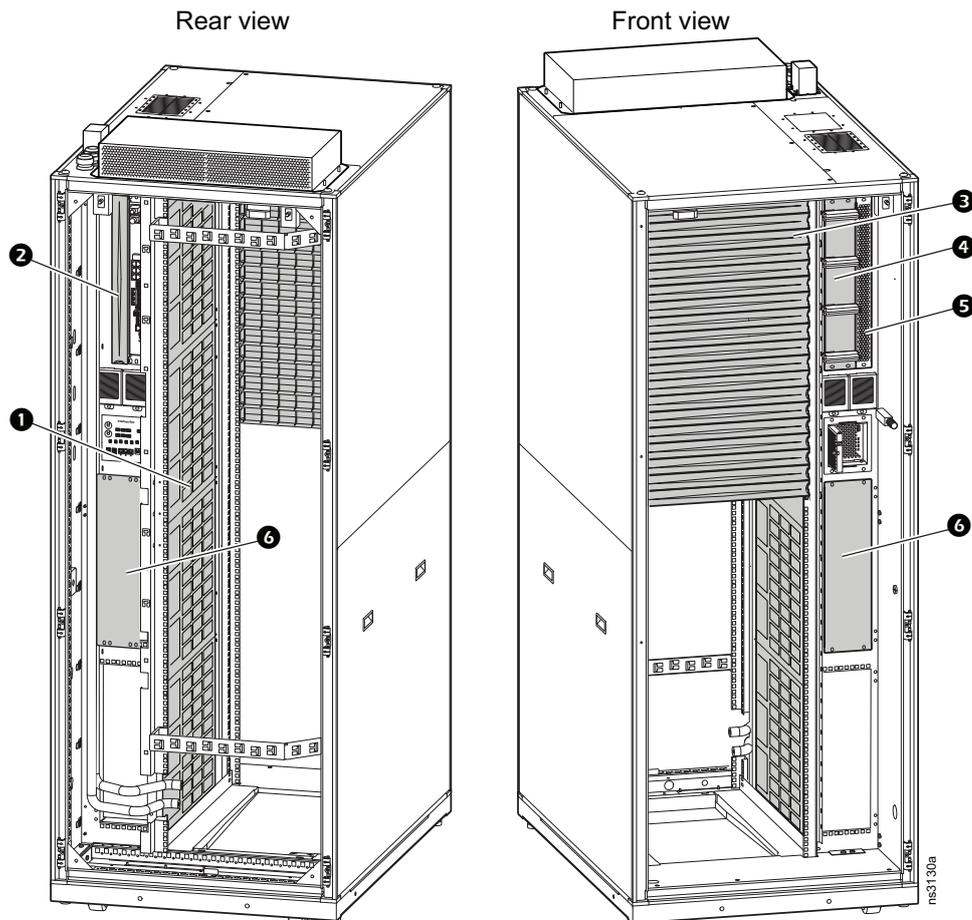
NOTE: The power panel and toolless cable management rings are hidden in this illustration.

Item	Description
❶	Removable interior blanking panels with knockouts for cable entry points and airflow management **NOTE:** See Cable Routing Options, page 17 removal instructions.
❷	APC 1 U 19" Black Modular Toolless Blanking Panel (AR8136BLK) — remove to install optional ATS
❸	APC 1 U 19" Black Modular Toolless Blanking Panels (AR8136BLK) — re-install where needed to accommodate your equipment
❹	Front blanking panel
❺	1 U perforated panel
❻	Blanking panels for UPS Battery mounting spaces.

Cable Routing Options

Top

You can route cables from the brush strip at the top of the Micro Data Center and

- Through optional brush strips installed to the interior blanking panels (AR7714, not provided)* ❶.

- Through the mounting spaces of the front and rear vertical blanking panels ❷. Remove either panel to allow cables through.

- Through the front and rear brush strips of the cable channel ❸. The cable channel is held in place with Torx screws. Remove the lid of the cable channel to allow cables through.

NOTE: Some parts of the EcoStruxure Micro Data Center are not shown in this image for clarity.
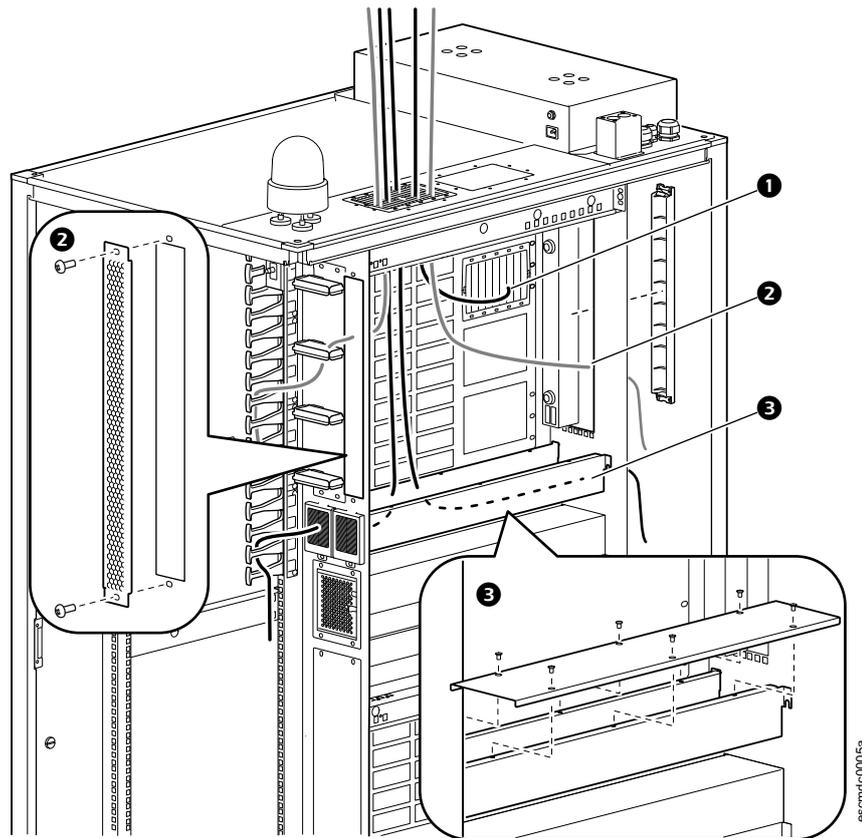
There is an additional compartment for cable storage at the top of the EcoStruxure Micro Data Center. Cables can be routed to and from the compartment from the interior, rear side of the EcoStruxure Micro Data Center, then accessed from the top.
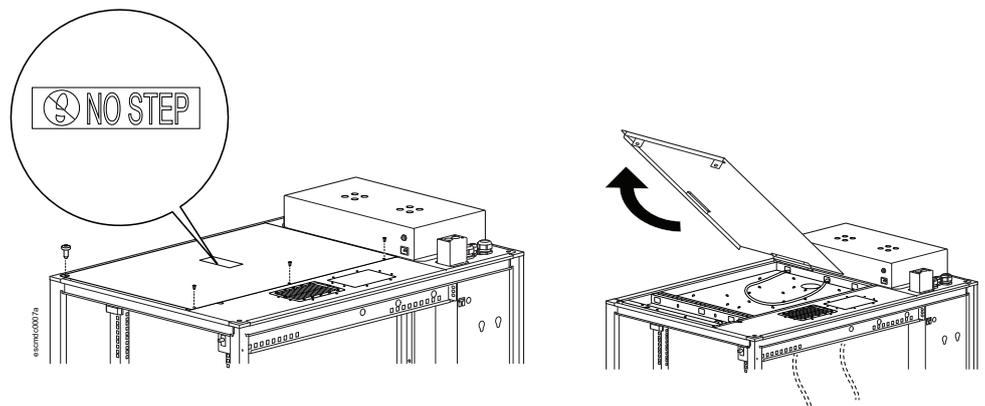
Bottom

There are two cable entry points at the bottom of the rack:

- Rectangular knockouts in the side of the Micro Data Center can be accessed by removing the support bracket for optional UPS batteries **Ⓐ**. The bracket is secured by four M6 Phillips-head screws. Once the bracket is removed, you can route cables through the UPS battery mounting area via the battery-pack access hole or via optional brush strips (AR7714, not provided*) installed in the side panel.

- A removable panel in the rear of the Micro Data Center is secured by M6 hex nuts **Ⓑ**. Cables may be routed through the knockouts in the panel, and then to the IT equipment. The panel may also be used to route optional, bottom-mounted cooling pipes, the drain pipe, and the connection between the indoor and outdoor cooling unit.
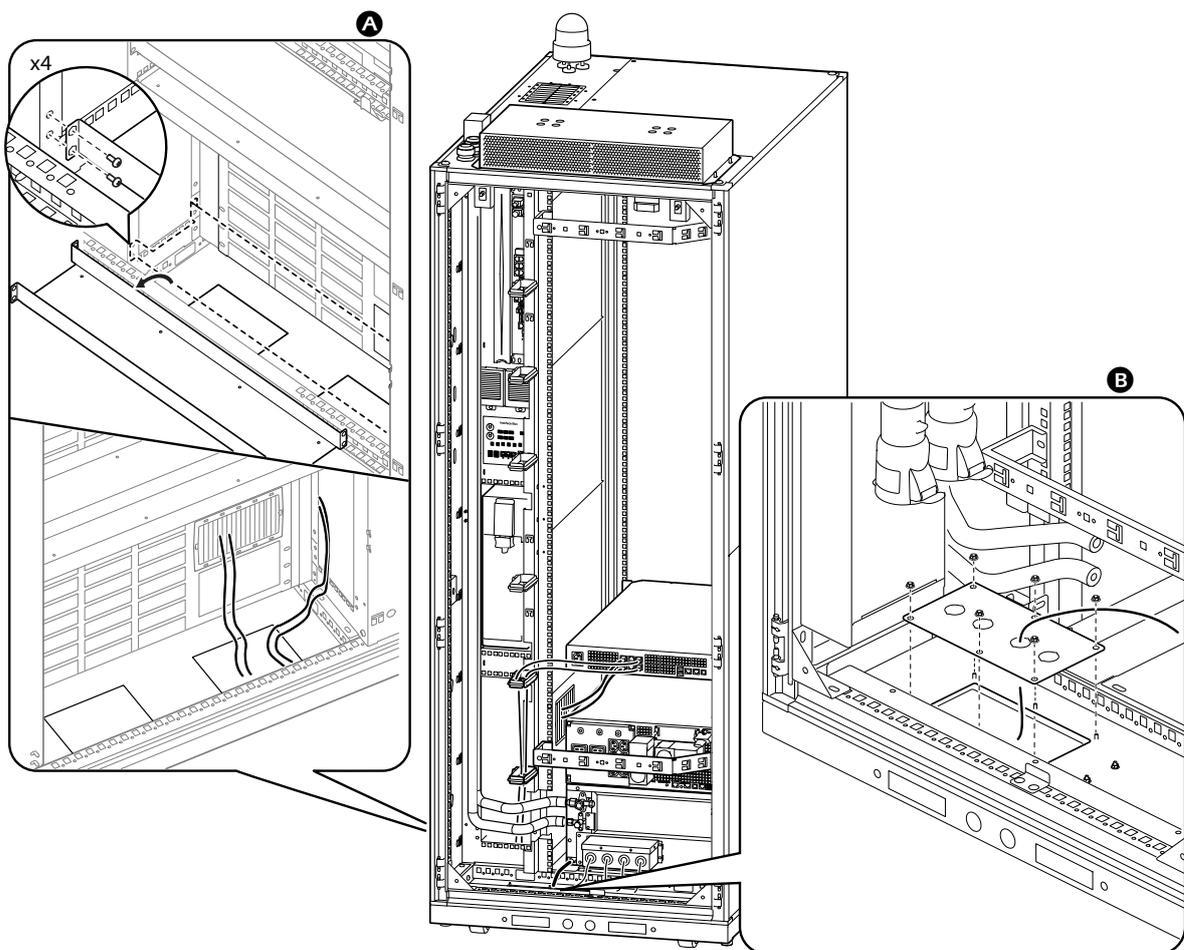
*If needed, you can rotate the blanking panel 180° to place the optionally installed brush strips near the front of the Micro Data Center. The interior blanking panels are held in place with self-tapping Phillips-head screws.
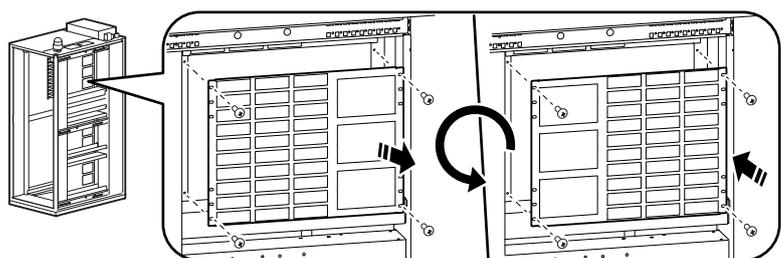
Items Shipped Separately

The following items are shipped to your site and must be installed there. If you have a custom configuration, refer to the bill of materials provided by your sales representative for a list of items.

NOTE: The availability of pre-configured assemblies (MDC43UXXXX) varies by region. If these assemblies are not available in your region, you can install optional equipment separately.

Easy UPS, Basic Rack PDU, and 50 Hz Cooling (MDC43UECSI)

Description	Part number	Quantity
Easy UPS		
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack (India only) or APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack	SRV6KRIL-IN SRV6KRIL	1
APC Easy UPS RAIL KIT, 700 mm	SRVRK1	1
SRV Modbus card	SRVSMB001	1
1.5 m Battery cable extender	SRV011	1
Rack PDU, Basic, 0 U, 32A, 230 V, (20) C13 & (4) C19	AP7553	1
Cooling		
3.5 kW Rack-mount Cooling Split System, Indoor unit with Gravity Drain	ACRMD4KI-1	1
3.5 kW Split System Cooling Unit, Outdoor Unit with Pre-charged Refrigerant	ACRMD4KI-2	1

Easy UPS, Metered Rack PDU, and 50 Hz Cooling (MDC43UBCSI)

Description	Part number	Quantity
Easy UPS		
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack (India only) or APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack	SRV6KRIL-IN SRV6KRIL	1
APC Easy UPS RAIL KIT, 700 mm	SRVRK1	1
SRV Modbus card	SRVSMB001	1
1.5 m Battery cable extender	SRV011	1
Rack PDU 2G, Metered, 0 U, 32 A, 230 V, (36) C13 & (6) C19	AP8853	1
Cooling		
3.5 kW Rack-mount Cooling Split System, Indoor unit with Gravity Drain	ACRMD4KI-1	1
3.5 kW Split System Cooling Unit, Outdoor Unit with Pre-charged Refrigerant	ACRMD4KI-2	1

Smart UPS, Basic Rack PDU, and 50 Hz Cooling (MDC43USCSI)

Description	Part number	Quantity
Smart UPS		
APC Smart-UPS SRT 6000 VA RM 230 V	SRT6KRMXLI	1
APC Smart-UPS SRT 19 in Rail Kit for Smart-UPS SRT 5/6/8/10 kVA	SRTRK2	1
APC Smart-UPS SRT 192 V 5 kVA and 6 kVA RM Battery Pack	SRT192RMBP	1
UPS Network Management Card 3 w/ Environmental Monitoring and Modbus	AP9643	1
Rack PDU, Basic, 0 U, 32 A, 230 V, (20) C13 & (4) C19	AP7553	1
Cooling		
3.5 kW Rack-mount Cooling Split System, Indoor unit with Gravity Drain	ACRMD4KI-1	1
3.5 kW Split System Cooling Unit, Outdoor Unit with Pre-charged Refrigerant	ACRMD4KI-2	1

Smart UPS, Metered Rack PDU, and 50 Hz Cooling (MDC43UACSI)

Description	Part number	Quantity
Smart UPS		
APC Smart-UPS SRT 6000 VA RM 230 V	SRT6KRMXLI	1
APC Smart-UPS SRT 19 in Rail Kit for Smart-UPS SRT 5/6/8/10 kVA	SRTRK2	1
APC Smart-UPS SRT 192 V 5 kVA and 6 kVA RM Battery Pack	SRT192RMBP	1
UPS Network Management Card 3 w/ Environmental Monitoring and Modbus	AP9643	1
Rack PDU 2G, Metered, 0 U, 32 A, 230 V, (36) C13 & (6) C19	AP8853	1
Cooling		
3.5 kW Rack-mount Cooling Split System, Indoor unit with Gravity Drain	ACRMD4KI-1	1
3.5 kW Split System Cooling Unit, Outdoor Unit with Pre-charged Refrigerant	ACRMD4KI-2	1

Additional Options

If you purchase an additional battery pack, you must also purchase the required cable extender for proper installation.

If you purchase NetBotz Handle Kit, you must also purchase the NetBotz Gear Box (NBHN4340) to install the handles.

If you purchase a Rack ATS, it is also recommended to purchase the power cord kit (AP8712R) to connect the Rack ATS to the power panel.

Description	Part number
UPS Battery	
APC Easy UPS 240 V Battery Pack for 5 & 6 kVA Online, Rack, Extended Runtime	SRV240RBP-9A
APC Easy UPS SRV 240 V RM Battery Pack for 6 & 10 kVA Rack, Extended Runtime model	SRV240RLBP-9A
APC Smart-UPS SRT 192 V 5 kVA and 6 kVA RM Battery Pack	SRT192RMBP
Easy UPS Battery cable extender	SRV011
Smart UPS Battery cable extender	SRT015
Cooling	
3.5 kW Rack mount Air Conditioning, Split system, Indoor unit with gravity drain, 60 Hz	ACRMD4KT-1
3.5 kW Rack mount Air Conditioning, Split system, Outdoor unit with pre-charged refrigerant, 60 Hz	ACRMD4KT-2
Low Ambient Temperature Kit (-35 °C)	ACAC10040
Condensate drain pump	ACAC10039
User Display for Indoor Cooling Unit	ACAC10045
Rack PDU	
Rack PDU, Basic, 0 U, 32 A, 230 V, (20) C13 & (4) C19 (included with MDC43UECSI, MDC43USCSI)	AP7553
Rack PDU 2G, Metered, 0 U, 32 A, 230 V, (36) C13 & (6) C19 (included with MDC43UACSI, MDC43UBCSI)	AP8853
Rack PDU 2G, Switched, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (optional)	AP8953
Rack PDU 2G, Metered-by-Outlet, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (optional)	AP8453
Rack PDU 2G, Metered by Outlet with Switching, 0 U, 32 A, 230 V, (21) C13 & (3) C19 (optional)	AP8653
ATS	
RACK ATS, 20 A/208 V, 16 A/230 V, C20 IN, (8) C13 (1) C19 OUT	AP4423
Power Cord Kit (6 ea), Locking, C19 to C20, 0.6 m, 90 degree	AP8712R
NetBotz Rack Access Handles	
HID 125 kHz Handle kit	NBHN125
miFare 13.56 MHz Handle kit	NBHN1356
Gear Box for NetBotz Rack Access Handles	NBHN4340
17" Rack LCD Console with Integrated 8 Port Analog KVM Switch	AP5808
Fire suppression Unit	ARFS600
Miscellaneous	
APC 1U 19" Black Modular Toolless Blanking Panel (10 pieces)	AR8136BLK
Horizontal Cable Manager, 1U x 4" Deep, Single-Sided with Cover	AR8602A
NetShelter SX/SV Roof Brush Strip	AR7714
Power Cord Kit (6 ea), Locking, C19 to C20, 0.6 m	AP8712S
Power Cord Kit (6 ea), Locking, C13 to C14, 0.6 m	AP8702S-WW

Equipment Required

The following equipment is not provided. Carefully examine your installation plan and determine which items are needed. The length of all cables and piping must be determined by the installation location and configuration of your EcoStruxure Micro Data Center.

Cooling (see your cooling documentation for additional details):

- Insulated Piping, Indoor Cooling Unit to Outdoor Cooling Unit, ASTM B88 Type L or ASTM B 280 Type ACR

- Pipe extensions for cooling unit gravity drain, PVC with embedded spring wire, 17 mm outer diameter, 13 mm inner diameter, tightened with clamp

- Additional Gas Charge

- Mounting stand/wall bracket for Outdoor Cooling Unit

- Communication cables from indoor cooling unit to outdoor cooling unit, PLTC 2 x 0.5 mm^2

- Power connection to outdoor cooling unit, H05VV-F 3 x 1.5 mm^2

- Bottom pipe kit (optional)

- Tools for cooling installation: vacuum pump, pressure gauge (R410a), flaring tool, copper pipe cutter, deburring tool, hammer drill, 65 mm drill bit, adjustable wrench, M4 Phillips screwdriver, M3 flat head screwdriver, 5 mm hex wrench, diagonal cutting pliers, scissors, measuring tape, multimeter, ladder, hammer, pen

Input Power Connection

NOTE: You may need up to two of each item — one for each input power source.

- IEC 309 63 A 2P+PE 6h Socket (suggested Schneider Electric part: 81278)

- IEC 309 63 A 2P+PE 6h Plug (suggested Schneider Electric part: 81378)

- Power Cable: 3 core x 16 mm^2 cable with ferrule crimps

Miscellaneous: Cat 5E or Cat 6 Ethernet Cable for Network Connection

About the Power Flow in the EcoStruxure Micro Data Center

The EcoStruxure Micro Data Center is designed to provide your rack-mount equipment with UPS protection, path redundancy and/or power redundancy.

UPS protection both reduces the risk of downtime and helps protect equipment from low quality power. If one power source experiences an outage, it can take time for backup power sources to come online. To avoid downtime, UPS units provide battery power to equipment during this short transition period. UPS units can also help to protect downstream equipment from power surges and provide higher quality power to downstream equipment by mitigating other power issues.

Path redundancy is the use of at least two paths for power flow to your equipment, even if there is only one power source. This reduces the risk of downtime—if one path is interrupted or damaged, the other path continues to provide power to your equipment.

Power redundancy is the use of two separate power sources to decrease the likelihood of downtime. If one source is lost, the other continues to feed the equipment. You can provide redundancy for dual-corded equipment by connecting it to two Rack PDUs that are fed by different power sources.

You can create redundancy for single-corded equipment by connecting it to an ATS (optional). The ATS receives power from both sources but only channels power to your equipment from one source at a time. If the primary power source is lost or becomes unstable, the ATS switches to provide power from the other source.

Power Source Requirements

Source A should connect to the mains utility power. Utility power should always be protected by a backup generator. Source B may connect either to an external UPS (not provided) or to utility power protected by a backup generator. If source B is utility power, it is preferable that it is on a separate line than source A. Both power sources are required to properly configure the power panel.

You can hard-wire the connection to each power source or install cable connectors. Use 3 core 16 mm^2 cables. If installing cable connectors, use an IEC 309 63 A 2P + PE 6h plug to connect to each power source. You can use Schneider Electric PratiKa wander plug and industrial socket (part numbers: 81378, 81278) or equivalent parts.

How the Power Panel Works

The power panel directs power from Source A and Source B to the EcoStruxure Micro Data Center equipment through two separate circuits. Breakers (QX) on each circuit allow you to control the flow of power through the panel. Circuit A (powered by Source A) is connected to odd numbered breakers on the power panel. Circuit B (powered by Source B) is connected to even numbered breakers. (See Power Panel Description, page 31 for an illustration of breakers and equipment connection points on the power panel.)

Different levels of UPS protection and redundancy are available based on the power supply. In some cases, the power panel configuration must be altered to provide the most benefits to your equipment. The following power panel configurations are designed to optimize the balance of UPS protection and redundancy provided to your equipment based on the available power sources.

- Configuration 1: Recommended when Source B is Utility Power. The power panel is shipped with this configuration.

- Configuration 2: Recommended when Source B is an external UPS with at least 6 kVA available

- Configuration 3: Recommended when Source B is an external UPS with at least 8 kVA available

The following diagrams show how power flows through the power panel to your equipment in different configurations and during a maintenance bypass procedure.

NOTE: Rack PDU B is optional, but highly recommended. A second Rack PDU is necessary to provide power redundancy and path redundancy to dual-corded equipment.

NOTE: The UPS provides protection only to equipment downstream of the UPS. It is recommended that you install an appropriate surge protection device upstream of your Micro Data Center to help protect equipment upstream of the UPS. You can purchase type 1 and type 2 surge protection devices from www.se.com.

NOTE: The ATS is optional. If the ATS is included, it provides power/path redundancy to the NetBotz Rack Monitor 250. Otherwise, the NetBotz Rack Monitor 250 is powered by Rack PDU A and does not receive the benefits of redundancy.
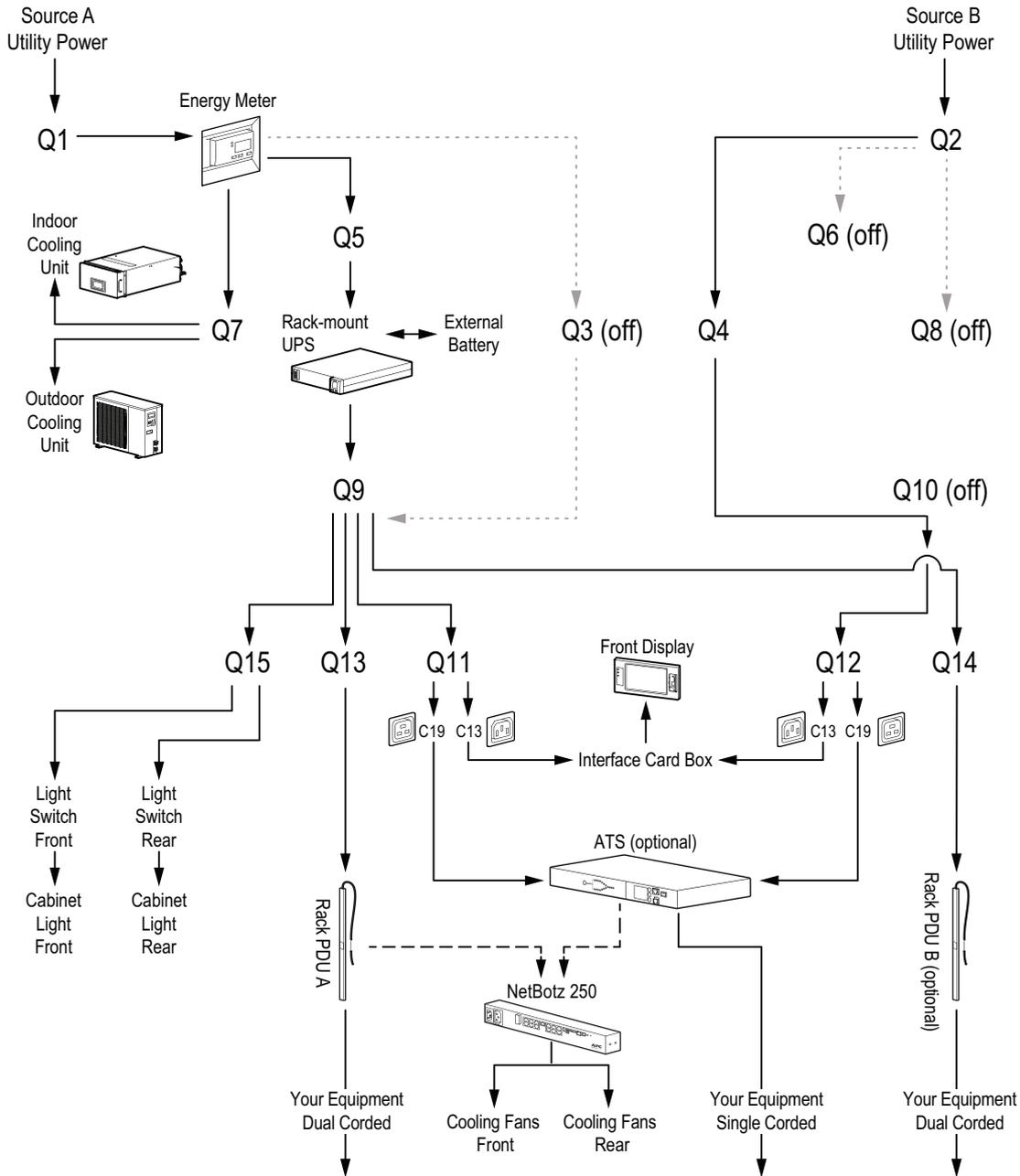
Configuration 1

Configuration 1 is recommended for sites where both Source A and Source B are Utility power because it provides UPS protection to basic components and monitoring devices.

In this configuration, both Rack PDU A and Rack PDU B (if included) are connected to circuit A. Equipment attached to both Rack PDUs has UPS protection and path redundancy downstream of the UPS.

The front display and any equipment powered by the ATS (if included) have path redundancy through the entire power panel (all paths downstream of Power Sources A and B are redundant). The front display and any equipment powered by the ATS will also have power redundancy if Source A and Source B are fed by two separate utility lines. Equipment connected to the ATS recieves UPS protection only when the ATS provides power from Source A.

Key

|	
——▶	Path with electric flow.
·····▶	Path without electric flow.
– – –▶	Optional path for electric flow.
QX	Breaker.

ns3055c

Configuration 2

This configuration is recommended when source A is connected to Utility power and Source B is connected to an external UPS (not provided) with at least 6 kVA available for the EcoStruxure Micro Data Center. An external UPS with this capacity can provide enough power for customer equipment on circuit B, but not enough power for the Cooling Unit.

In this configuration, Rack PDU B (if included) is connected to circuit B. Path redundancy and power redundancy are provided to the front display, dual-corded equipment attached to both Rack PDUs, and equipment attached to the ATS (if included). Since there is a UPS on both circuits, all equipment except the Energy Meter and Cooling Unit receives UPS protection.

The power panel is shipped with Configuration 1. See Connect Rack PDU B to Circuit B for Configurations 2 and 3, page 29 to change from Configuration 1 to Configuration 2.

Key

→ Path with electric flow.
····▸ Path without electric flow.
– – ▸ Optional path for electric flow.
QX   Breaker.
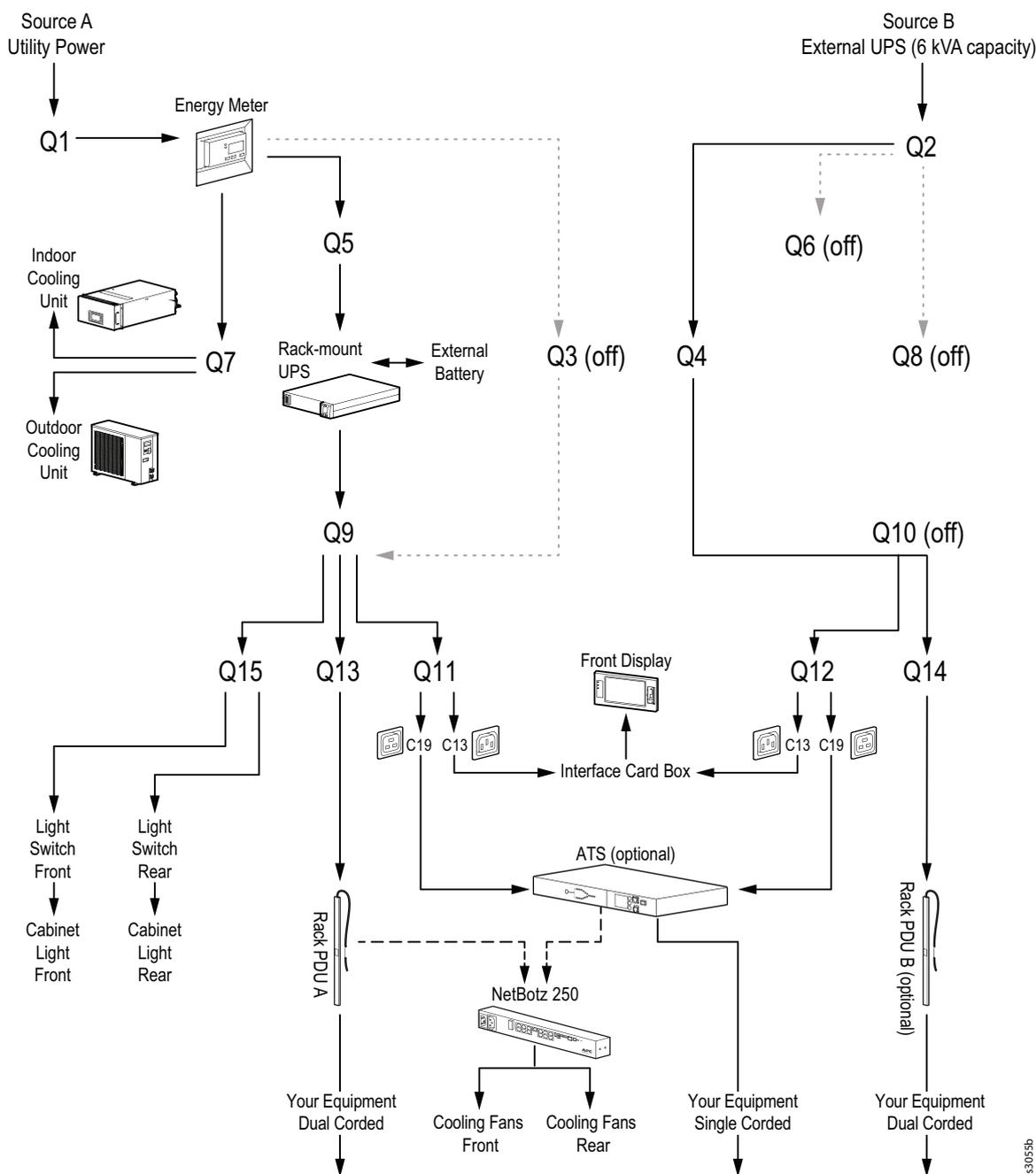
Configuration 3

This configuration is recommended when Source A is connected to Utility power and Source B is connected to an external UPS (not provided) with at least 8 kVA available for the EcoStruxure Micro Data Center. A UPS with this capacity can support both the Cooling Unit and customer equipment on Circuit B.

In this configuration, both Rack PDU B (if included) and the Cooling Unit are connected to Circuit B. Path redundancy and power redundancy are provided to the front display, dual-corded equipment attached to both Rack PDUs, and equipment attached to the ATS (if included). Since there is a UPS on both circuits, all equipment except the Energy Meter receives UPS protection.

The power panel is shipped with Configuration 1. See Connect Rack PDU B to Circuit B for Configurations 2 and 3, page 29 and Connect the Cooling Unit to Circuit B for Configuration 3, page 30 to change from Configuration 1 to Configuration 3.
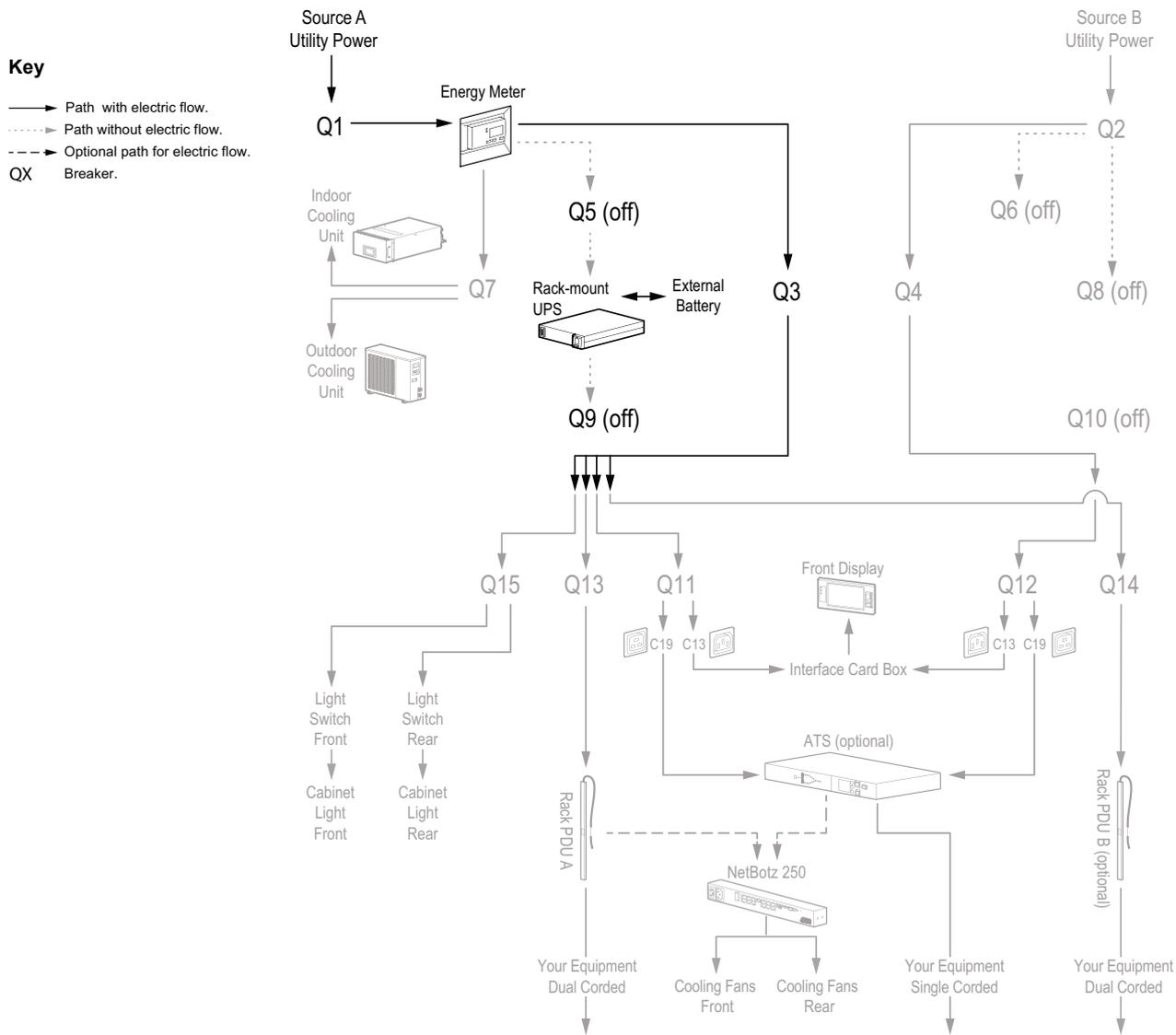
Key

→ Path with electric flow.

┄► Path without electric flow.

– – ► Optional path for electric flow.

QX Breaker.
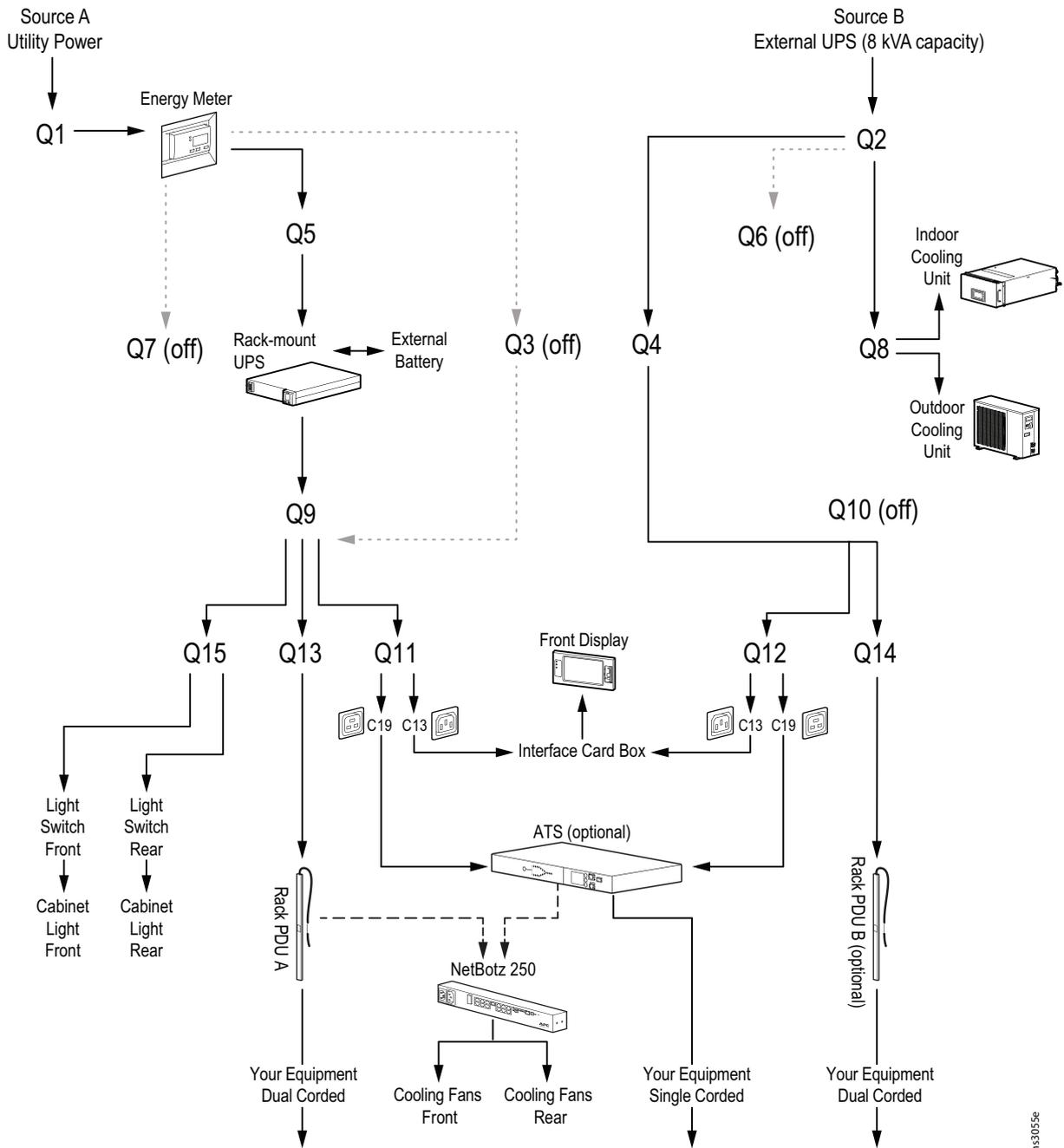
Maintenance Bypass

During maintenance bypass, power is channeled through Q3 to isolate the rack-mount UPS. The Maintenance Bypass procedure and power flow are the same in all three configurations. Configuration 1 is shown here for reference.

See Maintenance Bypass Procedure, page 83 for instructions to perform a maintenance bypass procedure.

Changing the Power Panel Configuration

NOTE: Power panel connections to external equipment (Outdoor Cooling Unit, external UPS, and other external equipment) are out of scope for Schneider Electric service personnel.

⚠⚠ DANGER

ELECTRIC SHOCK

- The Power Panel configuration must only be changed by a certified electrician.
- Disconnect all power to the EcoStruxure Micro Data Center before changing the Power Panel configuration.
- Turn off all UPS units before changing the Power Panel configuration.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.

Failure to follow these instructions will result in death or serious injury.

To remove and replace breaker or terminal connections, loosen the appropriate screws, remove and replace wires from the insertion points, then tighten the screws again.
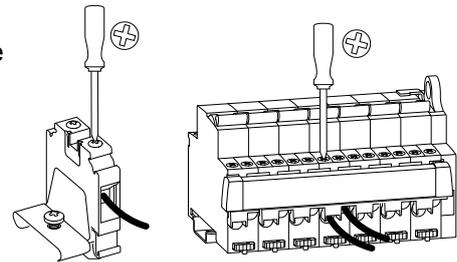
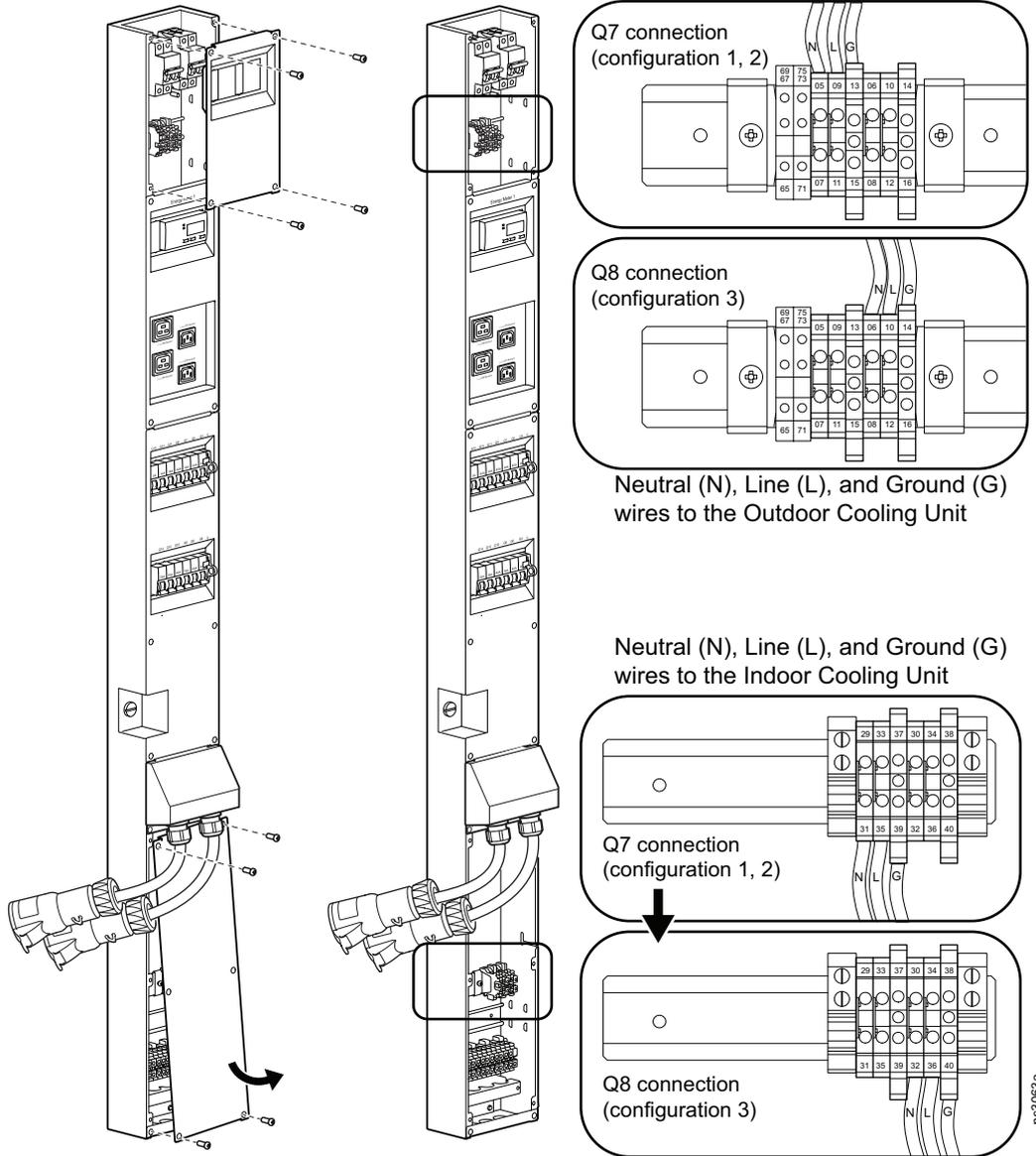# Connect Rack PDU B to Circuit B for Configurations 2 and 3

If source B is an external UPS with at least 6 kVA capacity available, you can disconnect Q14 from Q9 and reconnect it to Q10 as shown.
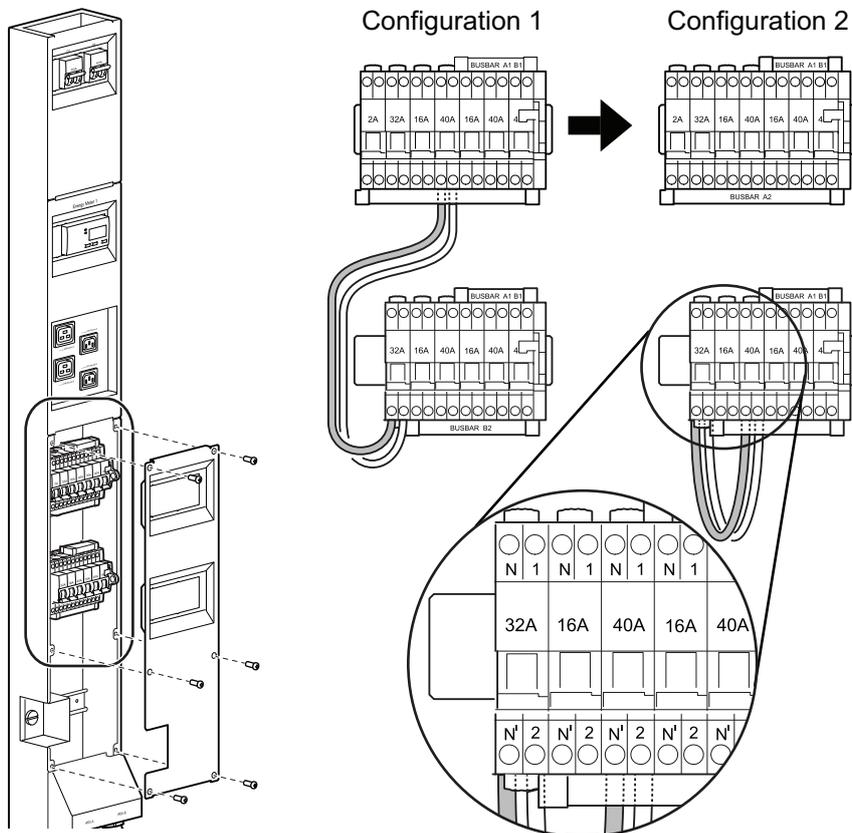
Connect the Cooling Unit to Circuit B for Configuration 3

NOTE: Complete the Connect Rack PDU B to Circuit B for Configurations 2 and 3, page 29 procedure before moving the Cooling Unit to Circuit B.

If source B is an external UPS with at least 8 kVA capacity available for the EcoStruxure Micro Data Center, you can connect the Indoor and Outdoor Cooling Units to Q8 instead of Q7. The power connection to the Indoor Cooling unit is pre-installed to Q7 by default, and must be moved to Q8 as shown below. The Outdoor Cooling Unit must be powered by the same breaker as the Indoor Cooling Unit. See Install the Cooling Equipment, page 47 for more information.

Q7 connection (configuration 1, 2)

Q8 connection (configuration 3)

Neutral (N), Line (L), and Ground (G) wires to the Outdoor Cooling Unit

Neutral (N), Line (L), and Ground (G) wires to the Indoor Cooling Unit

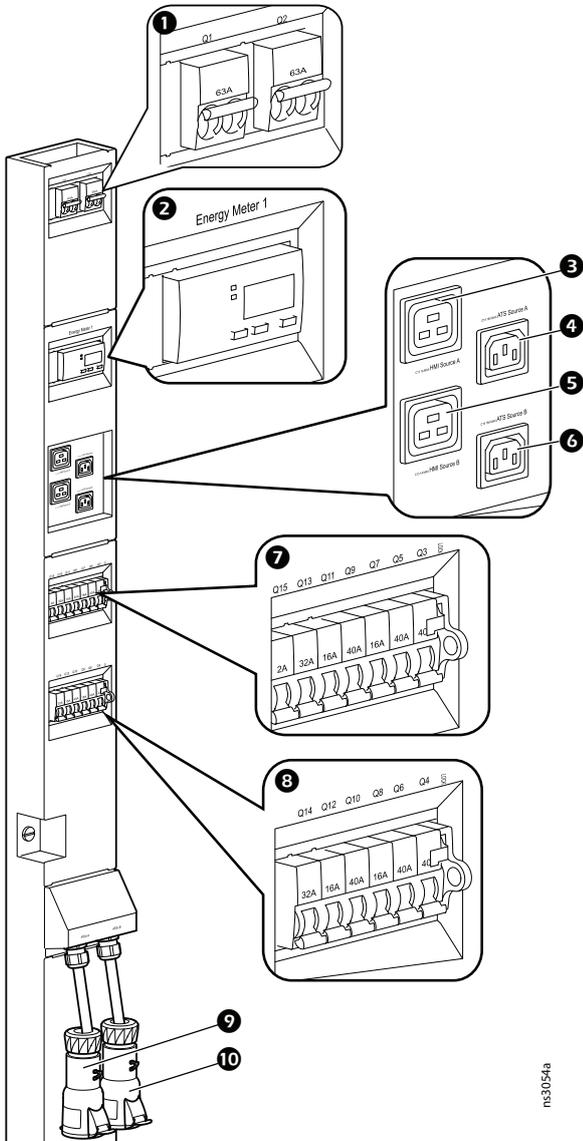Q7 connection (configuration 1, 2)

Q8 connection (configuration 3)

NOTE: If Source B cannot provide at least 8kVA to the EcoStruxure Micro Data Center, there may not be enough power available for your data center equipment.

Power Panel Description

NOTE: The C19 outlets can provide up to 15 A for equipment attached to the ATS.

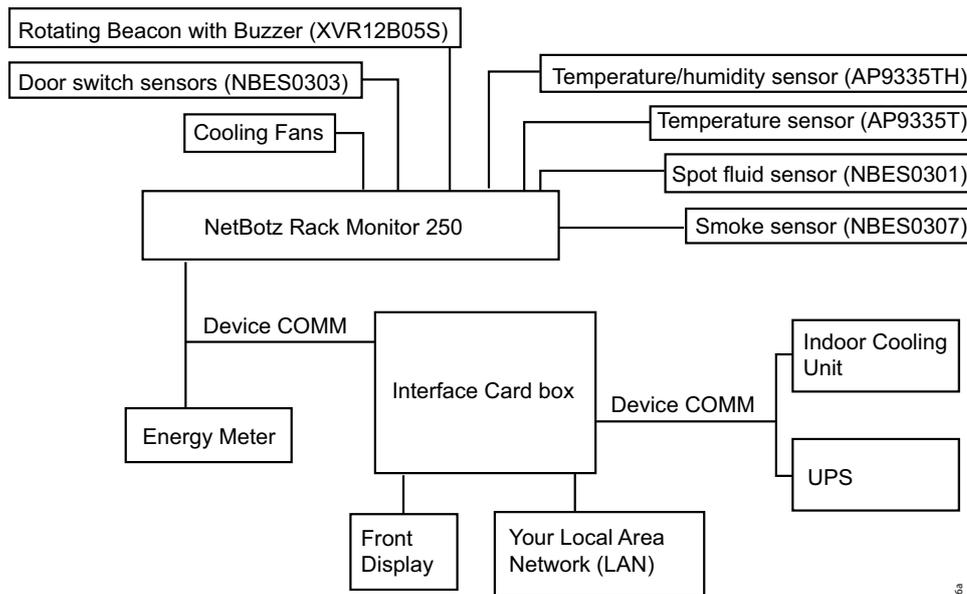**NOTE:** The Cooling Units may be connected to Q7 or Q8. Never use Q7 and Q8 simultaneously.

Item	Description
❶	Q1 and Q2 circuit breakers, 63 A, 220–240 VAC, 50/60 Hz • Q1: Input power, Source A • Q2: Input power, Source B
❷	Input energy meter (A9MEM3150)—monitors power from Source A (Q1) See the Energy Meter documentation on se.com for instructions.
❸	ATS power connection to Source A: C19
❹	Interface Card Box (ICB) power connection to Source A: C13 (provides power to the Front Display)
❺	ATS power connection to Source B: C19
❻	Interface Card Box (ICB) power connection to Source B: C13 (provides power to the Front Display)
❼	Source A circuit breakers, Q3–Q15 • LOCK: Used to lock Q3 in OFF position when UPS 1 is online. This is shipped in the locked position with Q3 OFF.* • Q3: 40 A Maintenance bypass breaker for UPS • Q5: 40 A, UPS power input • Q7: 16 A, Cooling unit (configurations 1 and 2)*** • Q9: 40 A, UPS power output • Q11: 16 A, Source A power connections for Front display and ATS (see ❸ and ❹) • Q13: 32 A, Rakc PDU A power input • Q15: 2 A, cabinet lights
❽	Source B circuit breakers, Q4–Q14 • LOCK: Used to lock Q4 in OFF position. • Q4: 40 A, Directs power from Q2 to equipment on Circuit B • Q6: Reserved for future use • Q8: 16 A, Cooling unit (configuration 3)*** • Q10: Reserved for future use • Q12: 16 A, Source B power connections for Front display and ATS (see ❺ and ❻) • Q14: 32 A Rack PDU B power input**
❾	Rack PDU A power input (Source A): IEC309 2P + PE socket
❿	Rack PDU B power input: IEC309 2P + PE socket**

*   The lock is held in place with a cable tie. It is recommended that you replace the cable tie with a padlock (not provided).

**   Q14/Rack PDU B may receive power from Source A or Source B. See How the Power Panel Works, page 24 for details.

***   See How the Power Panel Works, page 24.

Equipment Connections for Communication/ Monitoring

Rotating Beacon with Buzzer (XVR12B05S)

Door switch sensors (NBES0303)

Temperature/humidity sensor (AP9335TH)

Cooling Fans

Temperature sensor (AP9335T)

Spot fluid sensor (NBES0301)

NetBotz Rack Monitor 250

Smoke sensor (NBES0307)

Device COMM

Interface Card box

Indoor Cooling Unit

Device COMM

Energy Meter

UPS

Front Display

Your Local Area Network (LAN)

ns3056a

NOTE: Rack PDUs, ATS units, KVMs, and fire suppression units cannot be monitored through the front display or the Web UI of the EcoStruxure Micro Data Center. Metered/Switched Rack PDUs, ATS units, and KVMs can be monitored through their own user interfaces (see the documentation for each device). If compatible, the fire suppression unit may be connected to your building fire panel.
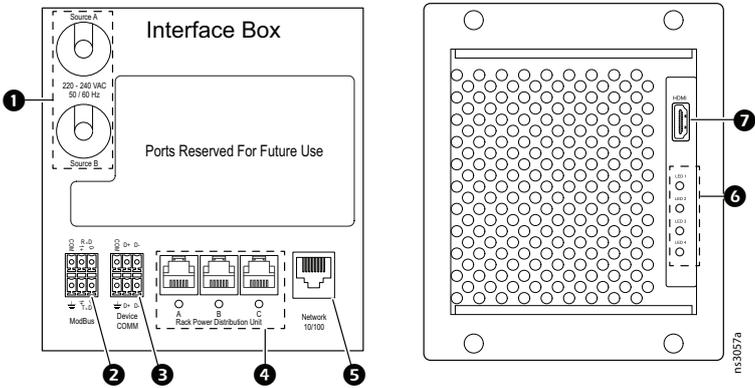
Connections to the Interface Card Box

NOTICE

HAZARD OF EQUIPMENT DAMAGE

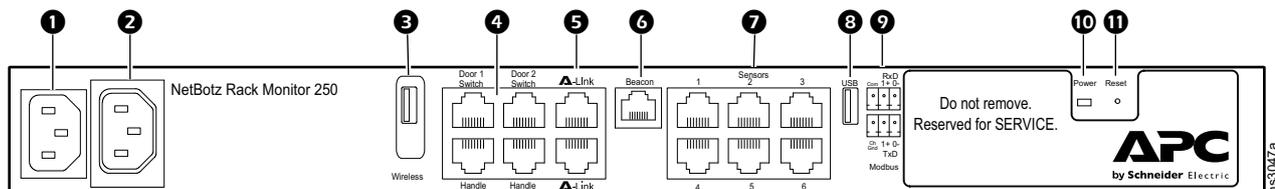DO NOT disconnect the HDMI cable (item 7) while the Interface Card Box is receiving power.

Failure to follow these instructions can result in equipment damage.

Item	Description
❶	Power input, 220–240 VAC, 50/60 Hz.
❷	Reserved for future use.
❸	Device communication (COMM). Upper pins: NetBotz, Energy meter. Lower pins: UPS, Cooling Unit.
❹	Reserved for future use.
❺	10/100 connection to Network. Use a Cat 5E or Cat 6 Ethernet cable.
❻	Light-emitting Diodes (LEDs) 1–4 LED 1: Power • Green: The Interface Card Box is receiving power from Source A and Source B. • Orange: The Interface Card Box is receiving power from Source B. Source A has experienced an outage. • Red: The Interface Card Box is receiving power from Source A. Source B has experienced an outage. LEDs 2–4: Reserved for future use.
❼	HDMI connection to front display.

NetBotz 250

The NetBotz Rack Monitor 250 comes installed with the following configuration.

Item	Description
❶	Input power
❷	Output to cooling fans
❸	Reserved for future use
❹	Door 1/2 switch ports: Reserved for future use. Handle ports: Optional connection for Rack Access Handles (NBHN125 or NBHN1356) on the front and rear door.
❺	Reserved for future use
❻	Rotating Beacon with Buzzer (XVR12B05S)
❼	Universal sensor ports 1–6: 1. Temperature/Humidity sensor (AP9335TH) 2. Temperature sensor (AP9335T) 3. Door Contact sensor (NBES0303) 4. Door Contact sensor (NBES0303) 5. Smoke sensor (NBES0307) 6. Spot fluid sensor (NBES0301)
❽	Reserved for future use
❾	Modbus connection to the Interface Card Box
❿	Power LED Indicates whether the unit is receiving power (blue = receiving power; dark = not receiving power).
⓫	Reset button Restarts the Rack Monitor 250 network management interface.

NOTE: Covered ports are reserved for the use of service engineers only. Do not remove the cover.

NOTE: The NetBotz Rack Monitor 250 uses firmware specific to the EcoStruxure Micro Data Center C-series. Refer to only the EcoStruxure Micro Data Center C-series *User Guide* for configuration instructions. Firmware updates must be performed by service engineers.

Procedure Overview

Review this procedure before installing the EcoStruxure Micro Data Center.

1. Install the EcoStruxure Micro Data Center in its final location. See Preparation, page 35.

2. If needed, re-wire the power panel for configuration 2 or 3. See Changing the Power Panel Configuration, page 29 for instructions.

3. Install the equipment that comes with your EcoStruxure Micro Data Center. See Order of Installation, page 45.

4. Power up the EcoStruxure Micro Data Center. See Initial Check, page 62 and Initial Start Up Sequence, page 64.

5. Set up Modbus communication between the front display and subsystems (Cooling, UPS, NetBotz, and Energy Meter). See Configuring Subsystems, page 66.

   NOTE: APC personnel may also check the front display and the NetBotz Rack Monitor 250 for firmware updates at this time. Firmware updates for the front display and NetBotz Rack Monitor 250 may only be performed by APC Field Service Engineers or APC Field Service partners.

6. Install your data center equipment and adjust the blanking panels for optimal airflow. This helps ensure the cooling system works efficiently. If needed, additional blanking panels (AR8136BLK) are available for purchase at www. apc.com or www.se.com.

Preparation

Before installing the EcoStruxure Micro Data Center, ensure your power connections are properly configured. It is recommended that you install a 3 core 16 mm^2 cable that terminates in an IEC 309 63 A 2P + PE 6h plug to connect to each power source. You can use Schneider Electric PratiKa wander plug and industrial socket (part numbers: 81378, 81278) or equivalent parts.

Location

Consider the location for your EcoStruxure Micro Data Center prior to its arrival. You must have access to the building power supply. Consult the Cooling Unit Installation manual (990-6186-XXX) and consider location requirements for the outdoor cooling unit.

At the final location, ensure there is enough space around the EcoStruxure Micro Data Center to open the doors, remove side panels, and provide reasonable working space. Leave a minimum of 1200 mm (47.2 in) in front of the EcoStruxure Micro Data Center. Leave a minimum of 1000 mm (39.37 in) open space around the rest of the EcoStruxure Micro Data Center to allow for the doors and side panels to open and to allow enough room for reasonable working space.
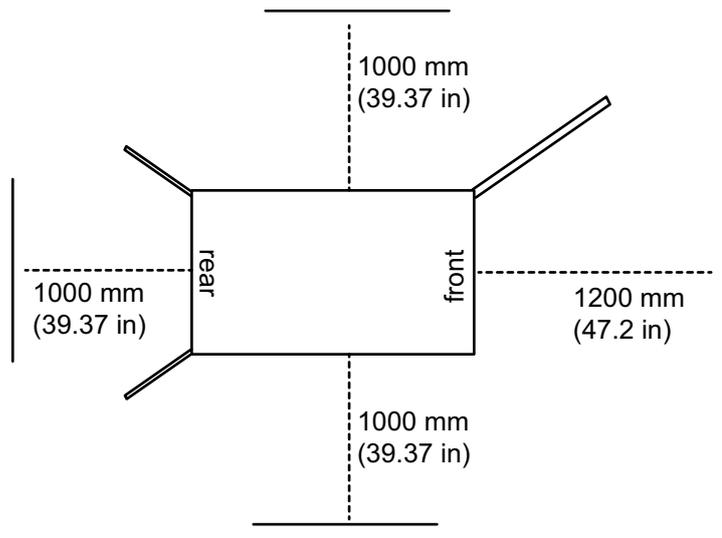
Move the Cabinet

<table>
<tr><td colspan="2" align="center">⚠ **WARNING**</td></tr>
<tr><td colspan="2">

TIP / HEAVY EQUIPMENT HAZARD

- The cabinet can be tipped. Use extreme caution when unpacking or moving.
- Use at least two people to unpack and move the cabinet.
- Do not load any equipment in the cabinet before moving the cabinet on its casters.
- When moving the cabinet on its casters, ensure the path of the cabinet is free of obstacles and debris.
- When moving the cabinet on its casters, make sure the leveling feet are up and push the cabinet from the front or rear. Never push the cabinet from the sides.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
</td></tr>
</table>

Labels. The following label can be found on the cabinet, and serves to communicate the following information:


Section ❶: Do not load additional equipment in to the cabinet before moving the cabinet on its casters. Once in place, lower the levelling feet. With the leveling feet lowered, the static cabinet can be loaded with up to 1,000 kg (2204.62 lb) of additional equipment.

Section ❷: Generic Tip Hazard.

Eye bolts. You can lift the cabinet by removing the hole plugs and attaching eye bolts (not included), to the top of the cabinet frame. Use rated M12 eye bolts. You can use eye bolts to lift the cabinet with up to 230 kg/507.06 lb additional equipment installed (480 kg/1058.22 lb total, including the weight of the rack and pre-installed components).

> **NOTE:** Each individual frame lift point is capable of lifting 240 kg (529 lb).
>
> **NOTE:** Use appropriate lifting hardware to ensure a straight-line pull on the eye bolts.
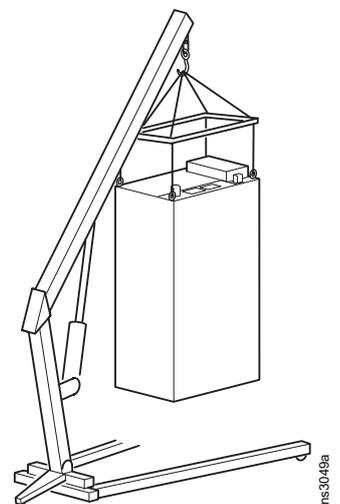
Level the Cabinet

NOTE: The leveling feet at the corners of the equipment can help provide a stable base if the floor is uneven, but they cannot compensate for a badly sloped surface.
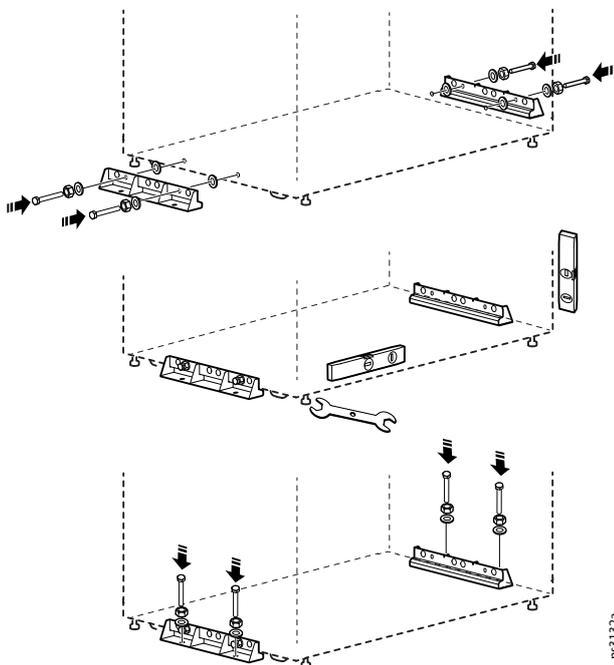
1. Ensure the cabinet is in its intended location.

2. Use a 13 mm open-ended wrench to turn the leveling feet to the right. Continue adjusting the leveling foot until it makes firm contact with the floor.
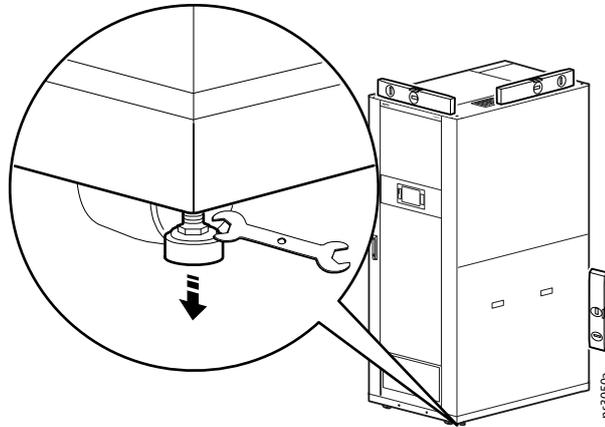
3. Using a level, adjust each foot until the cabinet is level and plumb.

Secure the Cabinet

If desired, you can use the shipping bracket to secure the cabinet to your floor.

1. Lower the leveling feet so that there is enough space to fit the shipping bracket beneath the cabinet and the floor.

2. Use the M10 bolts, nuts, and washers included with the packaging to secure the brackets to the cabinet.

3. Adjust the leveling feet so that the cabinet weight rests evenly on the shipping brackets and leveling feet. Use a level to ensure that the cabinet is level and plumb.

4. Secure the shipping bracket to the floor using fasteners appropriate for your floor material.

Ground the Cabinet
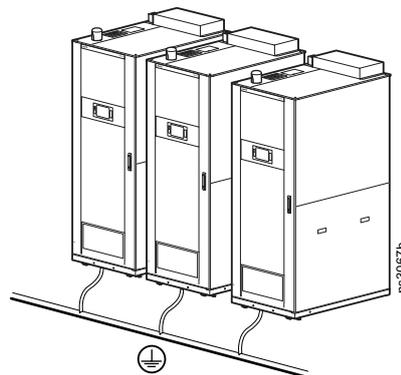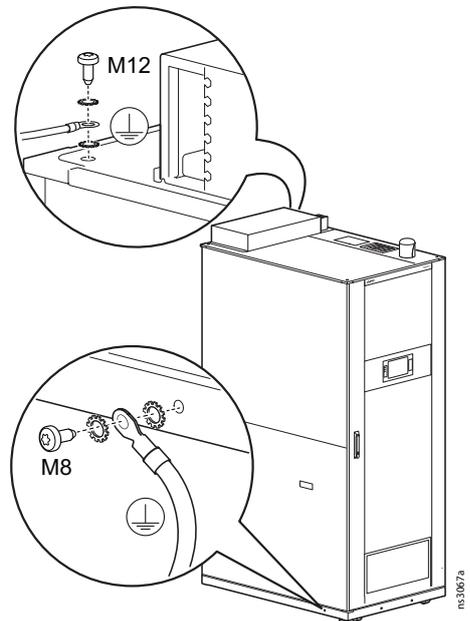
> ## ⚠⚠ DANGER
>
> **HAZARD OF ELECTRIC SHOCK**
>
> The cabinet must be connected to the building Common Bonding Network (CBN).
>
> **Failure to follow these instructions will result in death or serious injury.**

The side panels, and roof of the cabinet are grounded to the cabinet frame with grounding straps. The doors are grounded to the cabinet frame with 16 mm² (6 AWG) grounding wire.

Connect each cabinet directly to the building CBN in one of the designated areas (shown below).

- If you connect the CBN at the top location, use an M12 bolt. Place a serrated washer (not provided) between the bonding terminal and the cabinet frame.

- If connecting the CBN at the bottom of the cabinet, use the pre-installed hardware (M8 screw, nut, serrated washer). Place the serrated washer between your bonding terminal and the cabinet frame.

- Use a Common Bonding Network Jumper kit with at least 16 mm² (6 AWG) wire. For example, Listed [KDER] Panduit® RGCBNJ660PY or equivalent.

- Torque the screw to 6.9 N•m (60 lb-in).

- Do not ground one cabinet to another cabinet in a cascading style. Ground each cabinet directly to the building ground.

Side Panels

You can remove the side panels to access the cabinet for equipment installation or maintenance. The bottom side panels must be unlocked and re-locked from inside the cabinet.

Remove the Side Panels
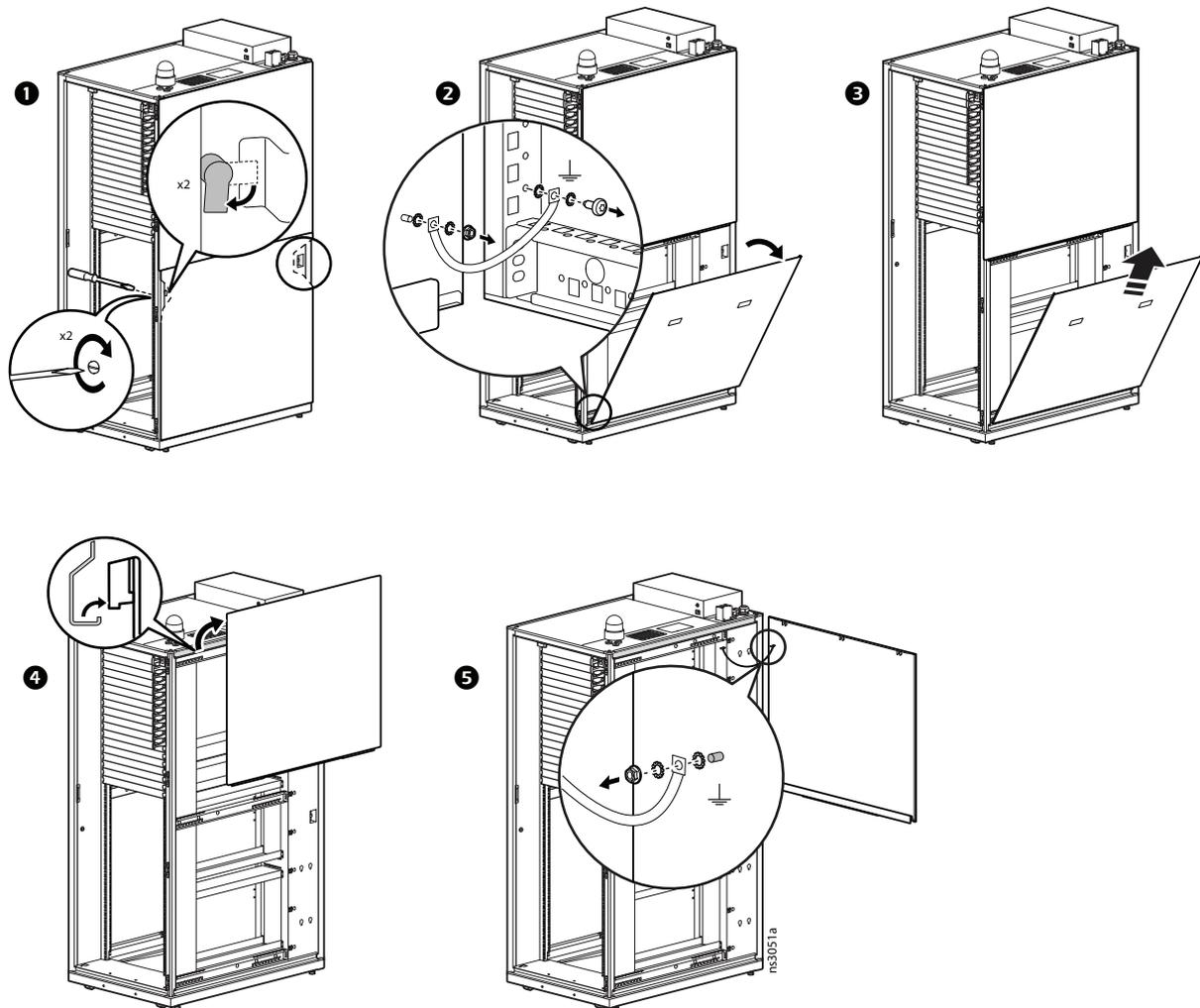
Replace the Side Panels

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK

Re-connect all grounding wires and straps.

Failure to follow these instructions will result in death or serious injury.
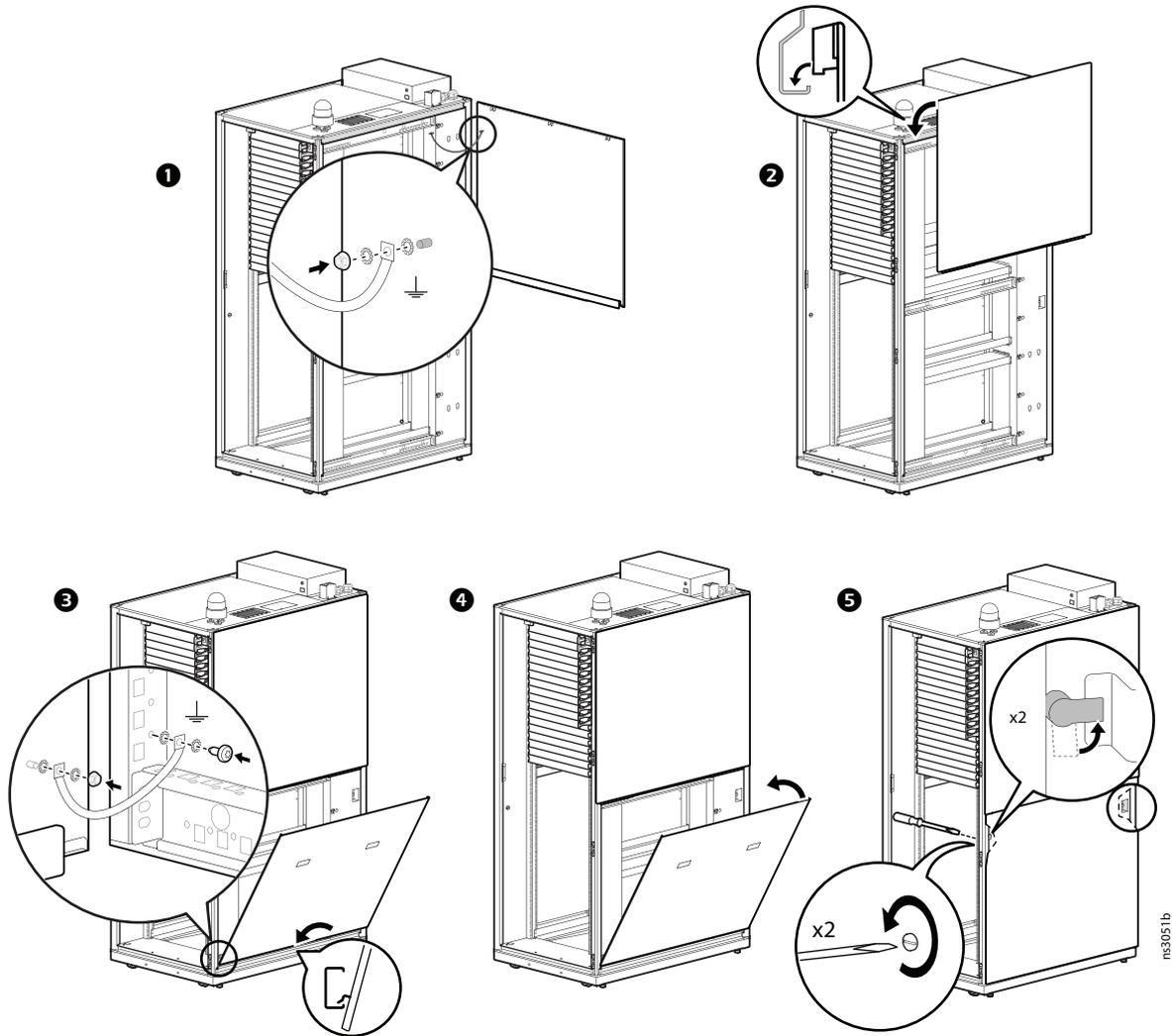
Doors

Remove the Front Door

To remove the rear door, skip steps 1 and 2.

❶

❷

❸   ❹

x4

ns3066a
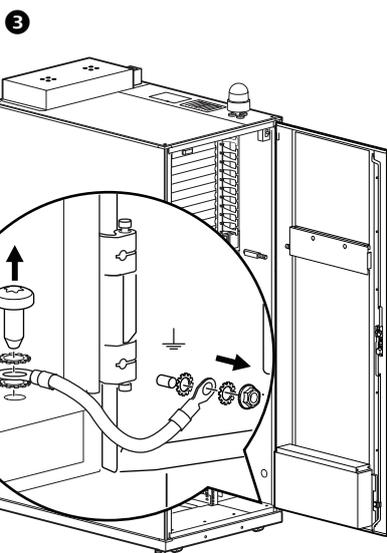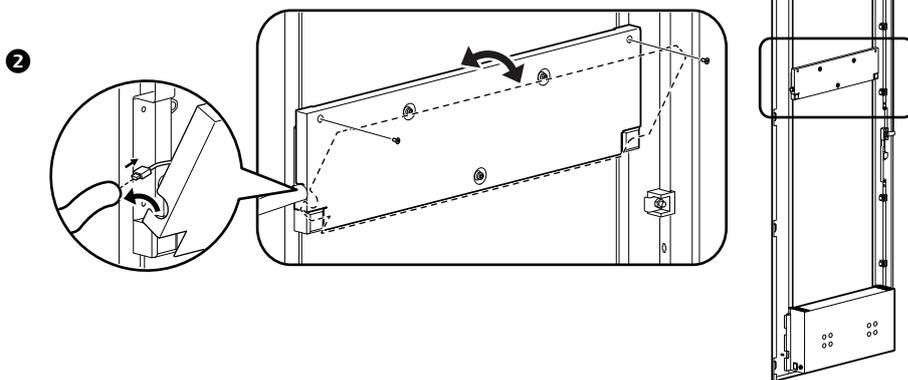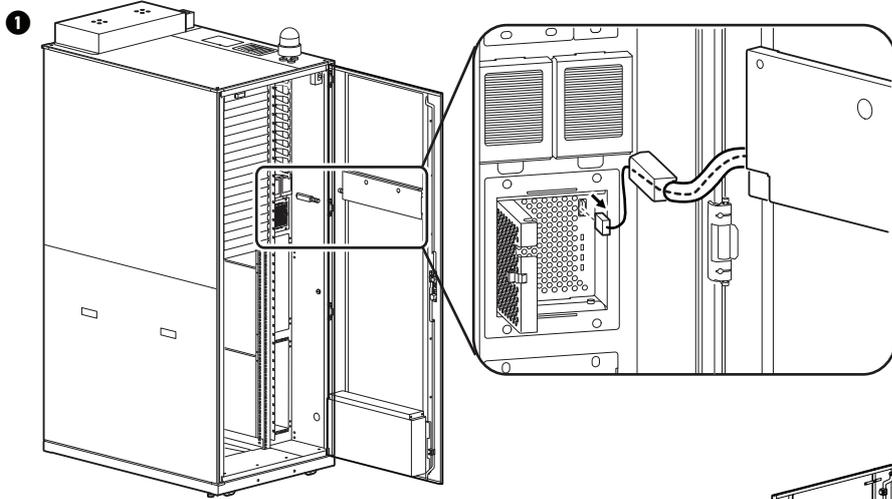
Install the Front Door

To install the rear door, follow steps 1–2 and ignore steps 3–4.

⚡⚠ DANGER
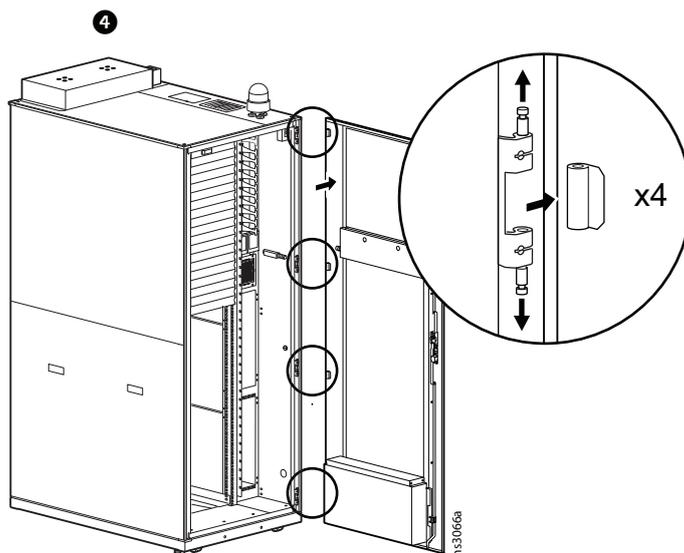
HAZARD OF ELECTRIC SHOCK

Reconnect all ground wires.

Failure to follow these instructions will result in death or serious injury.

Installation

<div>

⚠ WARNING

TIP HAZARD

• Install the heaviest equipment first and toward the bottom of the cabinet to prevent the cabinet from becoming top-heavy.

• Do not extend more than one piece of equipment on sliding rails at a time.

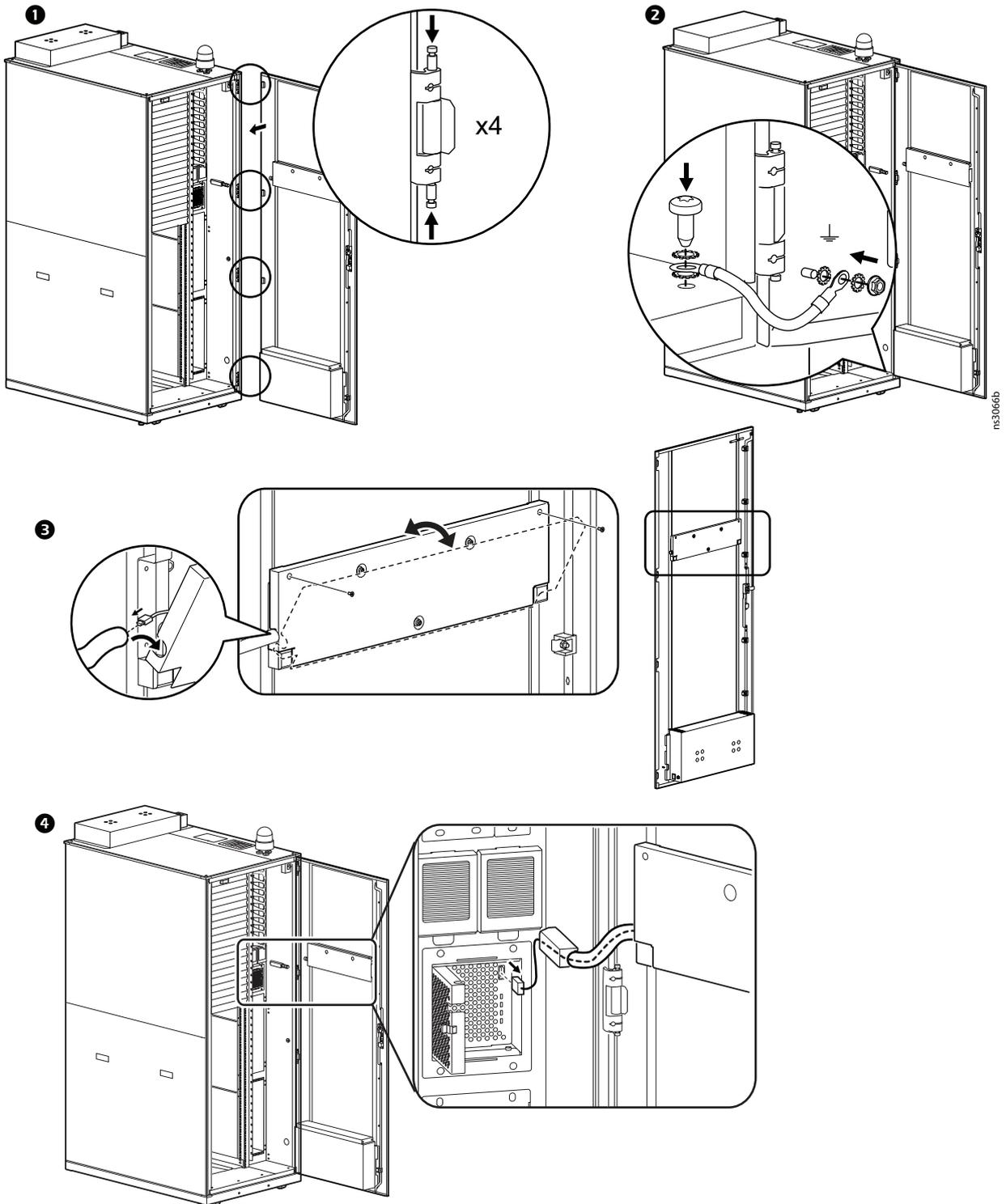**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

</div>

1. Review the installation documents for each piece of equipment. See Documentation, page 10 for details.

2. Locate the top and bottom U-space on the vertical mounting rails. Every third hole on the mounting rails is numbered to indicate the middle of a U-space.

3. Install the cage nuts on the interior of the vertical mounting rail (see Install a Cage Nut, page 44). Then install the equipment.
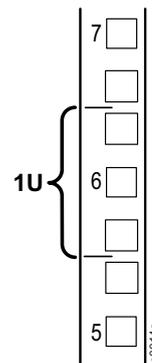
Install a Cage Nut

If needed, offers a cage nut hardware kit (AR8100) for use with square holes.

<div>

⚠ CAUTION

FALLING EQUIPMENT HAZARD

Install cage nuts horizontally, with the tabs engaging the left and right sides of the square hole. Do NOT install cage nuts vertically with the tabs engaging the top and bottom of the square hole.

Failure to follow these instructions can result in injury or equipment damage.

</div>

1. Install the cage nuts on the interior of the vertical mounting rails. Insert the cage nut into the square hole by hooking one ear of the cage nut through the far side of the hole.

2. Place the cage nut tool on the other side of the cage nut and pull to snap it into position.
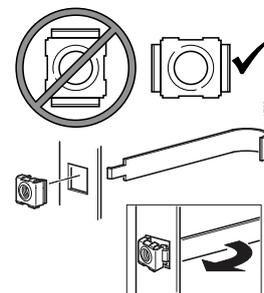
Remove a Cage Nut

1. Remove any attached screw.

2. Grasp the cage nut and squeeze the sides to release it from the square hole.

Order of Installation

> ### ⚠⚠ DANGER
>
> **RISK OF ELECTRIC SHOCK**
>
> - Do not block the Cooling Unit drain pipe.
> - Only connect the Indoor Cooling unit to the pre-installed refrigerant pipes as instructed in this manual.
> - This equipment must be installed and serviced by qualified personnel only.
> - Ensure no power is connected to the Micro Data Center during installation.
> - Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
> - Always use a properly rated voltage sensing device to confirm power is off.
>
> **Failure to follow these instructions will result in death or serious injury.**

See the individual installation manuals for each piece of equipment on www.apc.com or www.se.com. Follow all safety instructions provided with your equipment. A list of relevant documents for each product is provided under Documentation, page 10.

1. Install Power Input Covers, page 45
2. Install Exhaust Cooling Fan and Cooling Pipe Cover, page 46
3. Install the Rotating Beacon, page 46
4. Install the Cooling Equipment, page 47
5. Install the UPS, page 52
6. Connect the Cooling Unit and UPS to the Micro Data Center, page 53
7. Install the UPS Battery, page 54
8. Install Rack PDUs, page 56
9. Connect the Network, page 56
10. Install Optional Equipment, page 57
11. Install Your Equipment, page 71

Install Power Input Covers

Insert the power input covers into the holes at the top rear of the cabinet. Screw on the nuts to secure the covers.
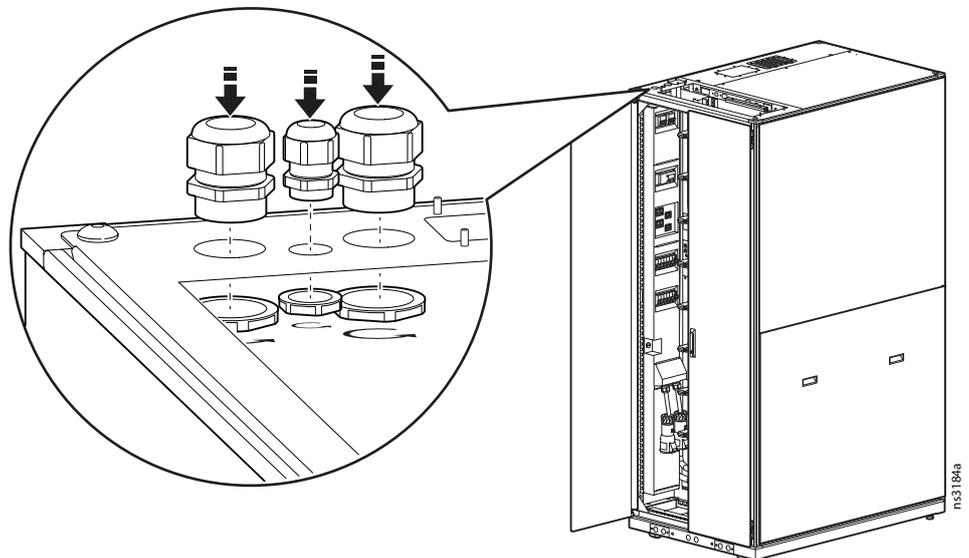
Install Exhaust Cooling Fan and Cooling Pipe Cover

Install the cooling pipe cover and the exhaust cooling fan to studs on the top of the cabinet as shown. Use the pre-installed M4 nuts to secure the cooling pipe cover. Use the pre-installed M6 nuts to install the top cooling fan. Connect the pre–installed C13 power cable to the cooling fan as shown.
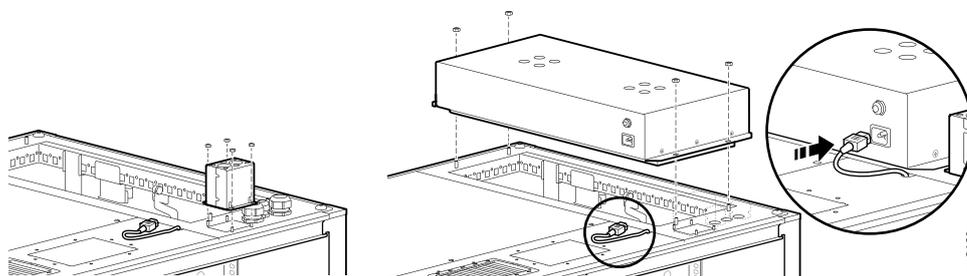
Install the Rotating Beacon

The Rotating Beacon has magnetic feet. Place the Rotating Beacon on top of the cabinet as shown, and connect it to the RJ45 port beneath the cable compartment. This port is connected to the Beacon port on the NetBotz 250 (see NetBotz 250, page 34 for details).
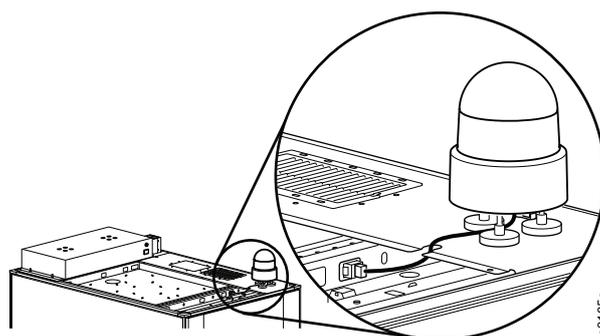
Install the Cooling Equipment

⚠ **DANGER**
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH
• This equipment must be installed and serviced by qualified personnel only.
• Read and follow all safety instructions in the Cooling Unit documentation before you perform this procedure.
• Only a certified electrician may make connections to the Power Panel.
• Disconnect all power to the EcoStruxure Micro Data Center before making connections to the Power Panel.
Failure to follow these instructions will result in death or serious injury.

NOTICE
HAZARD OF EQUIPMENT DAMAGE
• Perform all the commissioning checks, leak detection, and vacuum pumping procedures as directed in the documentation for your Cooling Unit.
• Both cooling units must be controlled by the same breaker (Q7 or Q8). Never use Q7 and Q8 at the same time.
Failure to follow these instructions can result in equipment damage.

NOTES:

- Check your Installation Manual to determine whether the refrigerant needs to be charged. If the distance between the Indoor Cooling Unit and Outdoor Cooling Unit is greater than 5 m (16.4 ft), pre-charged units will require additional refrigerant.

- The communication connections to the UPS and Cooling Unit are part of the same cable kit. Do not make the communication connection to the EcoStruxure Micro Data Center until the UPS installation is complete.

1. Install the Indoor and Outdoor cooling units according to the instructions in the appropriate Installation Manual (see Documentation, page 10).

   The standard cooling brackets do not fit the EcoStruxure Micro Data Center. Install the cooling unit at the bottom of the cabinet with the rear-mounting brackets included in the Accessory Box. Use the plastic cup washers and M6 screws from the hardware bag to secure the brackets to the cabinet as shown. Use the M4 x 12 screws included with the Cooling Unit assembly to attach the brackets to the Cooling Unit.
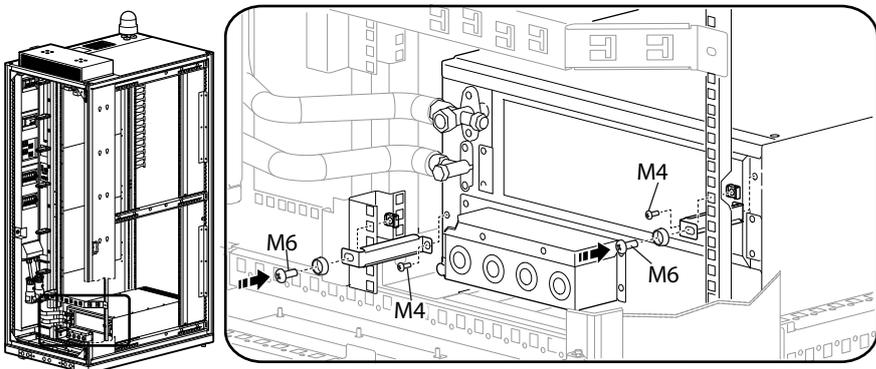
Connect the suction line valve (❶) and liquid line valve (❷) on your cooling unit to the pre-installed refrigerant pipes as shown. The external connections to the suction line (❶) and the liquid line (❷) are on the top of the cabinet.
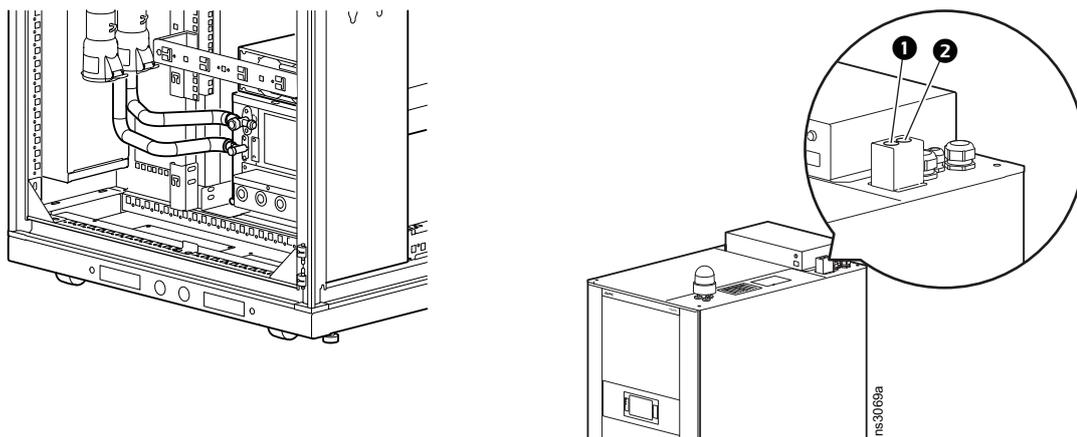
Alternatively, you can remove the top installation pipes and install the bottom cooling pipes (if included) instead. Install the bottom cooling pipes as shown so that the external connections to the suction line (❶) and the liquid line (❷) exit the bottom of the cabinet. See for instructions to remove the bottom plate.
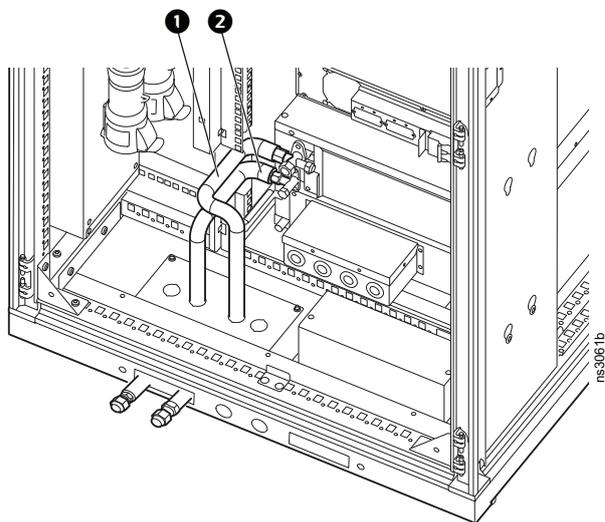
NOTES:

- If you are not installing a Condensate Drain Pump, ensure the condensate drain hose slants downwards from the Indoor Cooling Unit so that it can drain properly.

- Some equipment has been removed from this image for clarity.

- To find a document on either website, you can search for the document by part number (see Documentation, page 10) or by product: enter the part number of your Micro Data Center in the Search bar, then select **Documentation** in the appropriate product page.

2. If needed, install the optional Cooling Unit Display Interface (ACAC10045) and optional Low Temperature kit (ACAC10040) according to the instructions in their respective installation documents (see Documentation, page 10).

3. If needed, Install the optional Condensate Drain Pump (ACAC10039) in the rear of the EcoStruxure Micro Data Center with M4 screws (not provided). The power and communication connection cable should face the inside of the cabinet.

Follow the instructions in the installation sheet to attach the Inlet hose and Drain hose to the condensate pump and cooling unit. Thread the drain hose through the straps supporting the top cooling pipes so that it exits the cabinet through the cooling pipe cover.
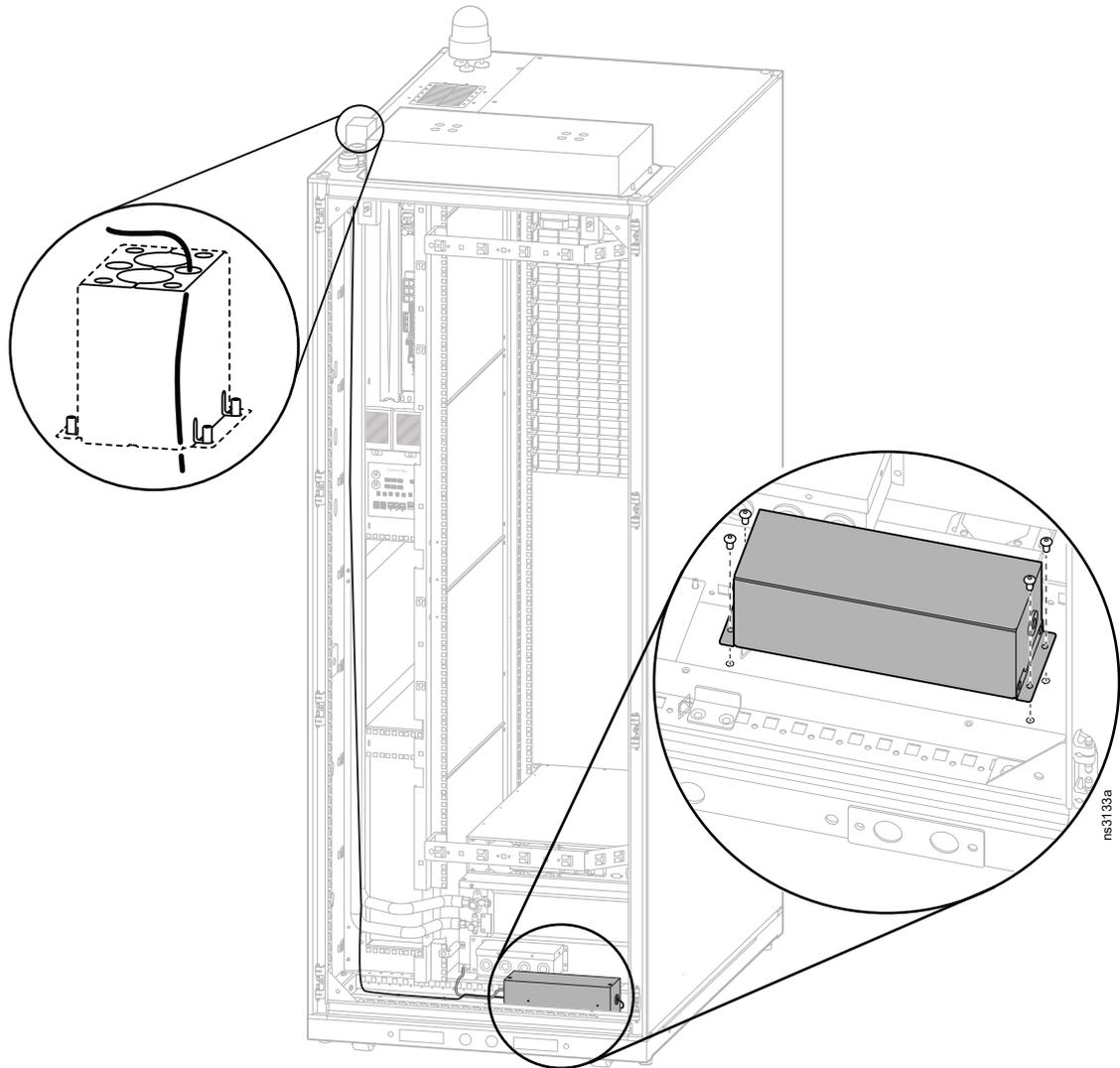
NOTE: Some equipment has been removed from this image for clarity.

Outdoor Cooling Unit and Power Connections

The following cooling installation procedure is out of scope for Schneider Electric Service personnel.

1. Follow the instructions in your the *User Manual* for your cooling unit to install the outdoor cooling unit. Connect the suction line valve (❶) and the liquid line valve (❷) to the appropriate refrigerant lines in the cabinet.
   NOTES

   • Do not remove the covers of the line valves before connecting the pipes.

   • Ensure the connections between the valves and the pipes are tight.

   • When uncoiling the insulated piping, hold one end of the pipe to the ground and roll the other end out slowly to prevent deformation.

   • The maximum equivalent piping length between the indoor and outdoor unit is 20 m (65.6 ft). The maximum vertical difference for the outdoor unit above or below the indoor unit is 5 m (16.4 ft).
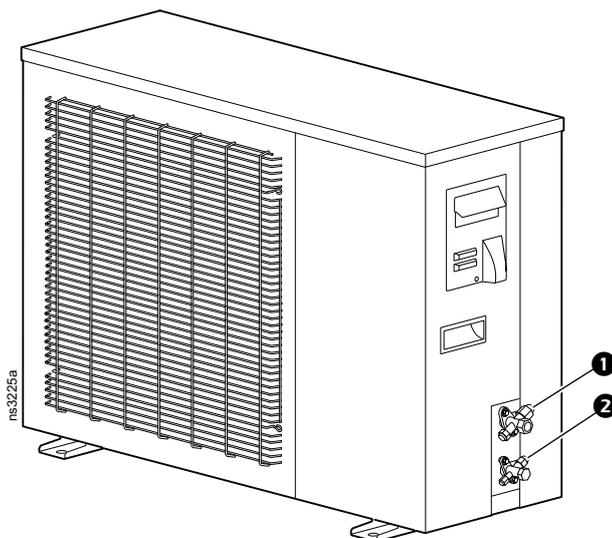
2. Follow the instructions in the Cooling Unit Installation Manual to make the power connection to the Outdoor Cooling Unit, then connect the Outdoor Cooling Unit to the power panel.

   • You can route the power cable through the middle power input cover at the top of the Micro Data Center.

   • Use 2 N-m torque to connect the designated terminals in the power panel.

   • Ensure the Outdoor Cooling Unit is connected to the appropriate terminals for your configuration. See How the Power Panel Works, page 24 and Changing the Power Panel Configuration, page 29 for detailed information on power panel configurations.

Neutral (N), Line (L), and Ground (G) wires to the Outdoor Cooling Unit
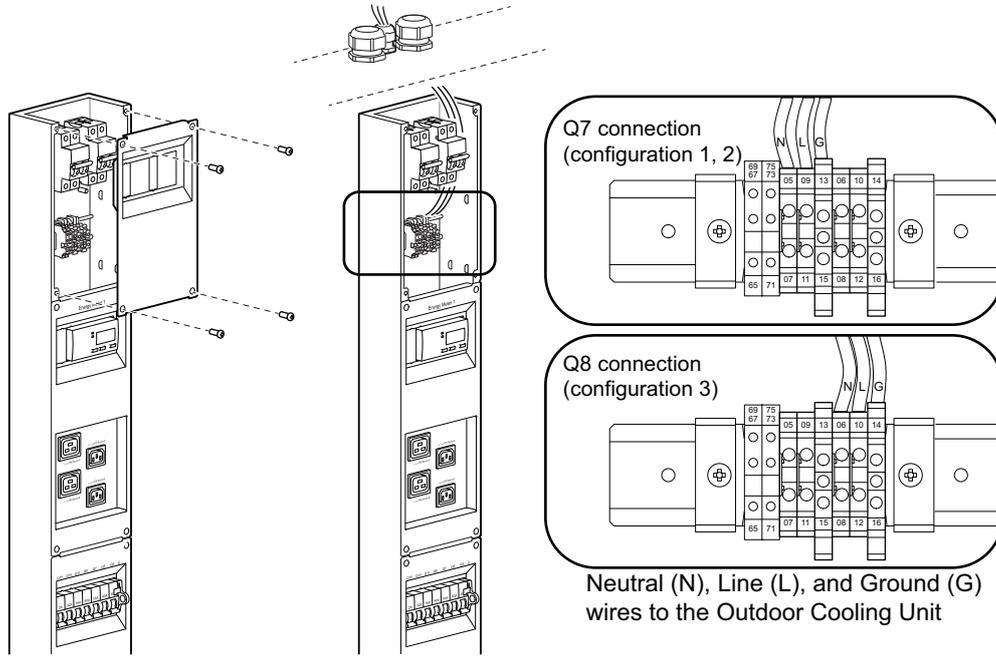
NOTE: Both Cooling Units must be controlled by the same breaker.

3. Connect power to the Indoor Cooling Unit as directed in the Cooling Unit *User Guide*. The power cable for the Indoor Cooling Unit (labeled **IDU-1 Input**) is pre-installed to the power panel — you can find it extending from the bottom of the power panel. The labels on the Line, Neutral, and Ground connections are **LL**, **NN**, and **PE**, respectively.

Install the UPS
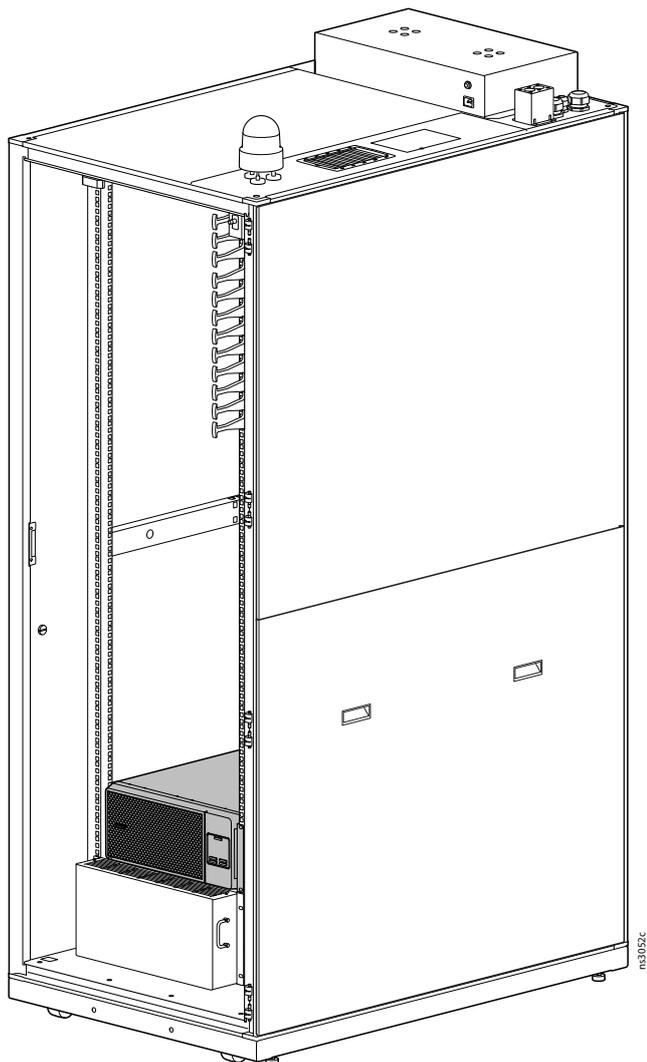
1. Install the NMC3 or Modbus card in the SmartSlot or Intelligent card slot of your UPS. See your UPS *Installation Manual* for the installation location.

   For SRV6KRIL-IN and SRV6KRIL only:

   You must configure the Modbus card (SRVSMB001) before installing it in the SRV UPS. See the Modbus card *Installation Manual* (990-9286) to configure the following settings:

   - SW1: Bits 1 and 4 are ON on SW1. All other bits are OFF. This ensures that ID = 9.
   - SW2: Bits 1 and 4 are OFF on SW2. All other bits are ON. This ensures the following:
     - Baud rate = 9600 (bit 1 is OFF and bit 2 is ON).
     - Parity check = No parity check, 1 stop bits (bits 3 is ON and bit 4 is OFF).
     - RS485 Resistance Configuration = Enable (bits 5, 6, 7, and 8 are ON on SW2).

2. Install the UPS mounting rails in the mounting space directly above the Indoor Cooling Unit. Follow the instructions provided with the mounting rails.

3. Use the custom mounting ears provided in the accessory box (Accessory Box, page 15) to install the UPS on its mounting rails. Follow the instructions provided in your UPS installation manual.

4. Connect the UPS to the power panel. The input (**UPS-1 Input**) and output (**UPS-1 Output**) power cables are pre-installed to the power panel. You can find them at the bottom of the power panel.

   On each cable, the Line, Neutral, and ground wires are labeled as follows:

   - Line (brown wire) = **LL**
   - Ground (green and yellow wire) = **PE**
   - Neutral (blue wire) = **NN**

   Follow the instructions in your UPS documentation to connect the power cables to your UPS. Depending on your UPS model, the input and output cables may have to share a ground terminal.

   NOTE: Some SRV UPS models are automatically configured so that turning the UPS off activates bypass mode. See your UPS documentation for instructions to disable this setting in the UPS management firmware.

Connect the Cooling Unit and UPS to the Micro Data Center

The UPS/Cooling connection wires are pre-installed to the Device COMM ports of the Interface Card Box and routed through the cable channel to the rear of the Micro Data Center. The connections are labeled **UPS-1** and **IDU-1**.
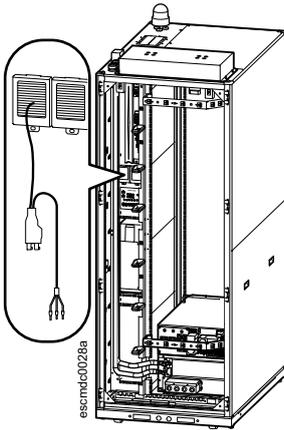
1. Connect the UPS.

   • SRV6KRIL-IN, SRV6KRIL UPS models: Insert the RJ45 to 3.5 mm pitch adapter (included in the accessory box of MDC43UECSI, MDC45UBSCI) into the rightmost port on the Modbus card. Then install the **UPS-1** connector to the adapter.
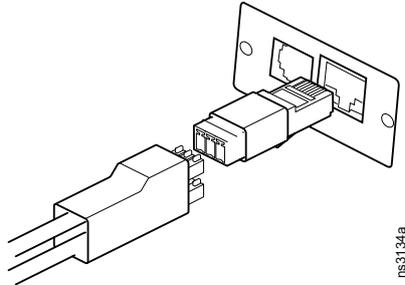
   • SRT6KRMXLI: Install the **UPS–1** wire to Modbus port on the SmartSlot card. Ensure the pin with the black wire is inserted in to the chassy ground connection point (**A**).
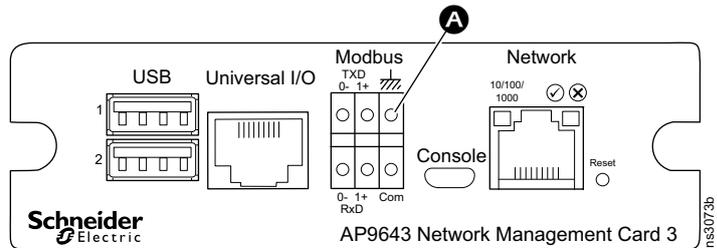
2. Install the **IDU-1** connection to the leftmost RS485 ports on the Indoor Cooling Unit (**B**).
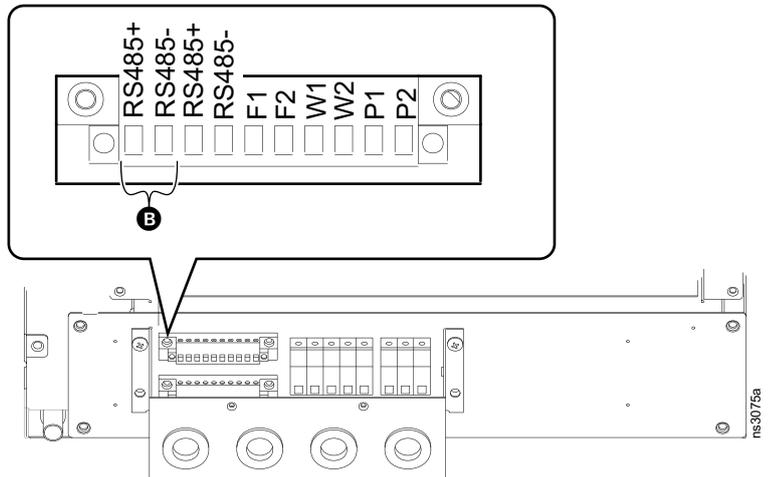
Install the UPS Battery

Install the UPS External Battery pack in the front of the rack.

1. Install the screws and brackets included with your battery pack (**A**). Then use the provided cage nuts, cup washers, and M6 screws to install the battery pack as shown (**B**).
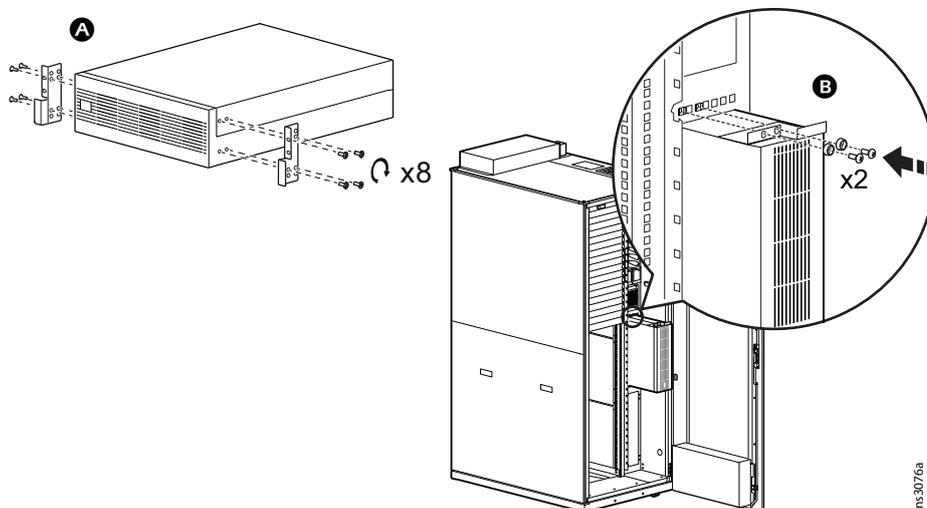
   NOTE: The model of your battery pack and brackets may differ from the illustration.

   NOTE: For SRT192RMBP, follow the instructions in your battery pack manual to remove the battery modules before mounting the battery pack. Re-install the battery modules after mounting the battery pack.

2. Use the battery cable extender (SRV011 or SRT015) to connect the external battery pack to your UPS. See the installation manual for your battery pack for connection points.

3. If needed, you can place a second UPS battery in the space directly below the first one. If the battery must be grounded, connect it to the grounding point directly above the mounting space. Use the pre-installed M4 screw and serrated washer to make the connection to the Micro Data Center Frame.

> **NOTE:** You must purchase the appropriate battery cable extender (SRV011, SRT015) for the second battery pack.
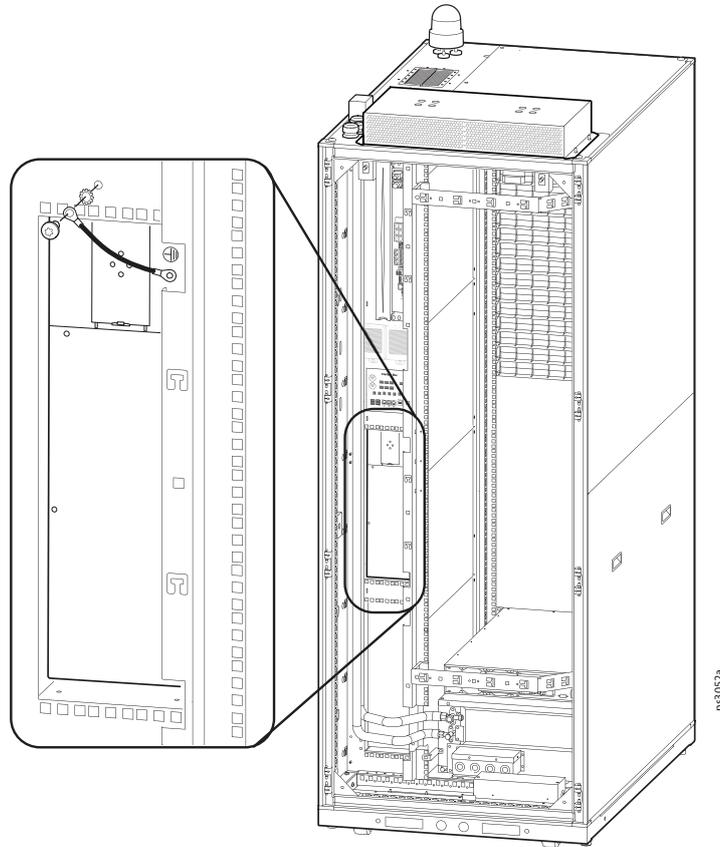
> **NOTE:** For SRT192RMBP, you must ground the battery pack to the rear cabinet frame. Connect the provided grounding wire and pan-head screws to the battery pack as instructed in the battery pack installation manual. Use the pre-installed M4 screw and serrated washer to make the connection to the Micro Data Center Frame.

Install Rack PDUs
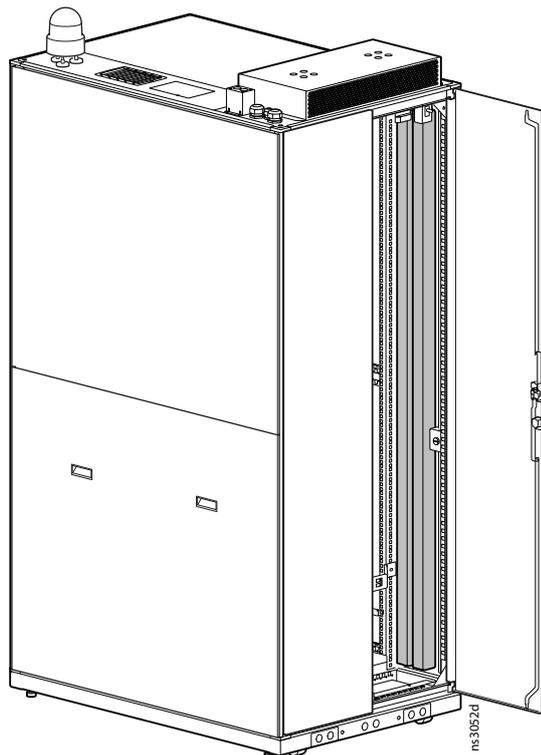
Follow the Rack PDU installation instructions to Install the Rack PDU units in the 0 U mounting spaces at the rear of the cabinet. Connect the Rack PDUs to the designated IEC 309 sockets on the power panel. If you only have one Rack PDU, connect it to the Rack PDU A power socket. If an ATS is not included in this configuration, connect the NetBotz Rack Monitor 250 into Rack PDU A. See Power Panel Description, page 31 for details.

Connect the Network

Use a Cat 5E or Cat 6 Ethernet cable (not provided) to connect your Local Area Network to the **10/100 Network** port on the Interface Card Box. See Equipment Connections for Communication/Monitoring, page 32 for details.

Install Optional Equipment

ATS

NOTE: It is recommended to purchase the AP8712R power cord kit for connection to the power panel.

Remove the blanking panel next to the NetBotz Rack Monitor 250 and Install the ATS with the ports facing outward. Follow the instructions provided in the installation manual on www.apc.com (see Documentation, page 10 for details). Use C19 to C20 power cords (AP8712R, not provided) to connect the inlets on the ATS to both of the designated C19 outlets on the Power Panel (see items ❹ and ❻ in the Power Panel Description, page 31).
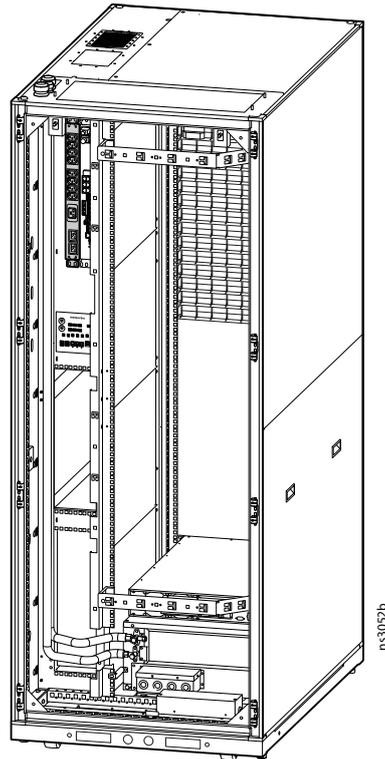
NOTE: Some items are not shown for clarity.

Fire Suppression Unit

<table>
<tr><td colspan="2" align="center">⚡⚠ **DANGER**</td></tr>
<tr><td colspan="2">

HAZARD OF ELECTRIC SHOCK

- Only a certified fire suppression system technician may connect the fire suppression unit to a fire alarm panel.

- Read and follow all safety and maintenance instructions included with the fire suppression unit.

Failure to follow these instructions will result in death or serious injury.
</td></tr>
</table>

Connections to the fire alarm panel are out of scope for Schneider Electric service personnel.

1. Install the fire suppression unit in the top two U-spaces of the Micro Data Center so that the discharge nozzles point towards the rear doors. Read and follow the Installation and Quick Start instructions that come with the fire suppression unit. Connect the power cord to either Rack PDU or the ATS (if included).
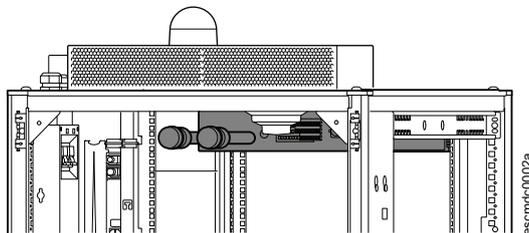
2. Install the two smoke sensors (included in ARFS600) to the mounting bracket near the top of the Micro Data Center. Use the screws and wing nuts included with the smoke sensors. If needed, you can move the mounting bracket down a few spaces on the mounting rails for easier access. Connect the smoke alarms to the fire suppression unit as directed in the wiring diagram for accessories included with the smoke sensors.
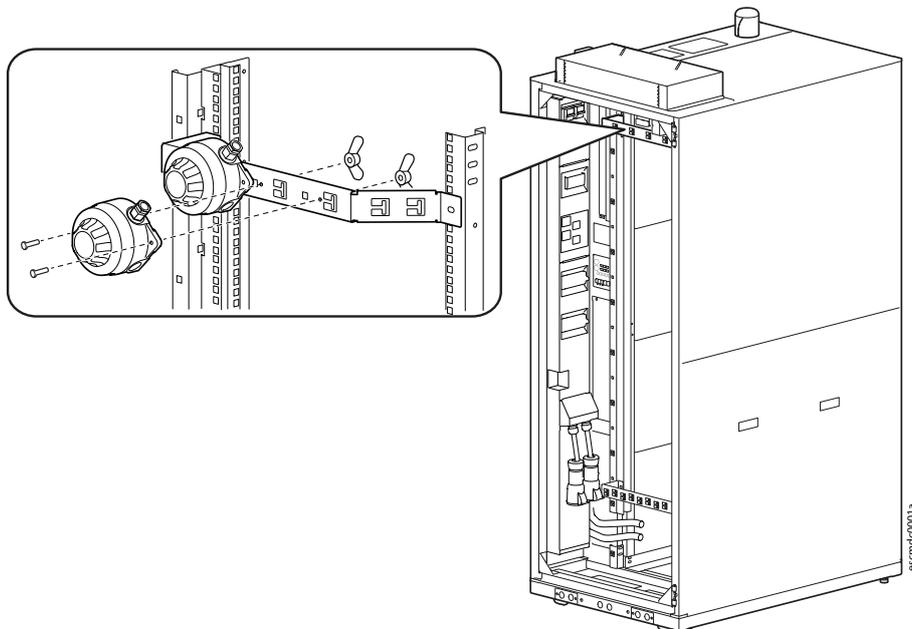
KVM

Follow the installation instructions that come with the equipment. Connect the power cord to either Rack PDU unit or the ATS.

NetBotz Rack Access Handles

NOTICE
HAZARD OF EQUIPMENT DAMAGE
DO NOT perform this procedure while the Interface Card Box is receiving power.
Failure to follow these instructions can result in equipment damage.

To install the NetBotz Rack Access handles, you must also purchase the Gear Box (NBHN4340), which allows the Rack Access handles to be compatible with the door of the Micro Data Center.

1. Remove the pre-installed handle.
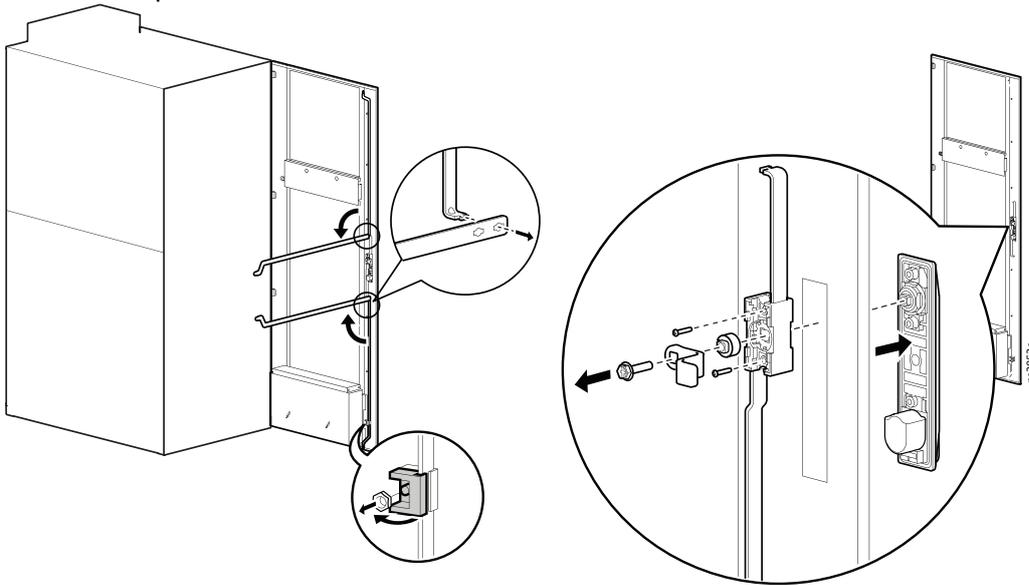
2. Install the NetBotz Handle kit and gear box (NBHN4340).
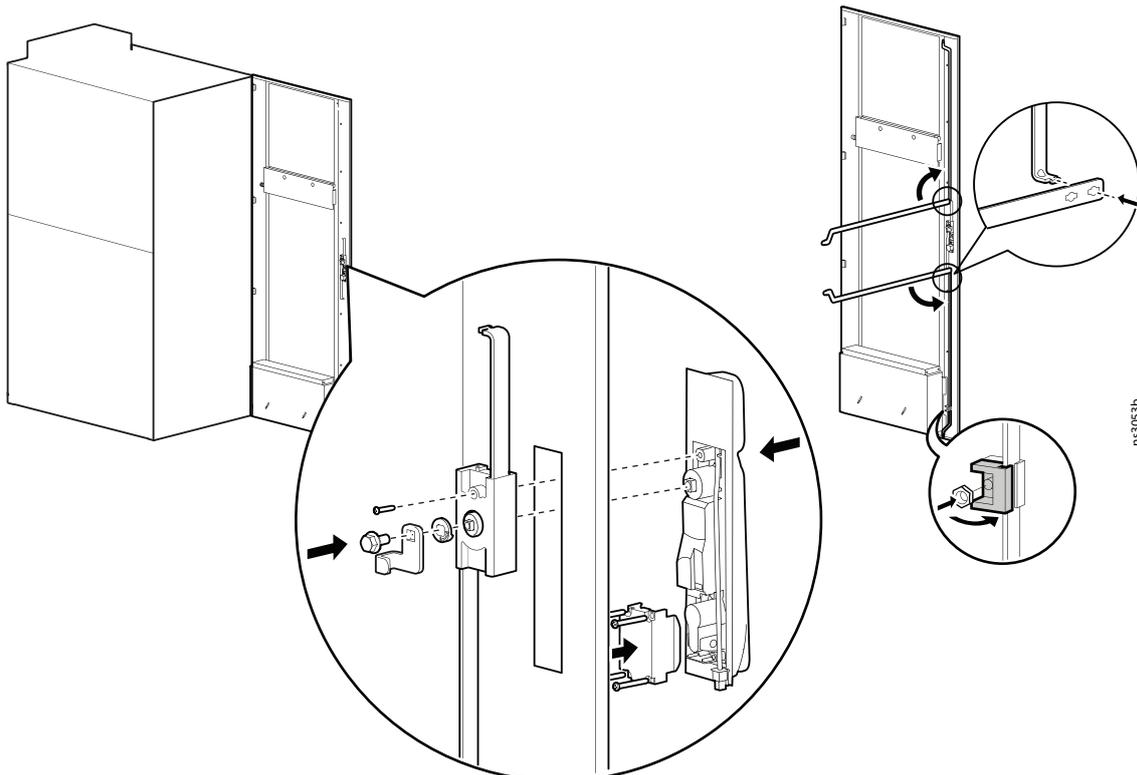
3. Attach the included cable assembly to lock connector port (**A**) and the proximity reader cable (**B**).
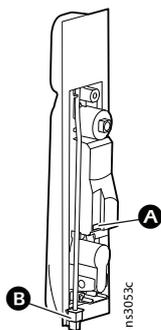
4. Remove the two Phillips head screws holding the front display plate in place **C**, then swing the plate open.
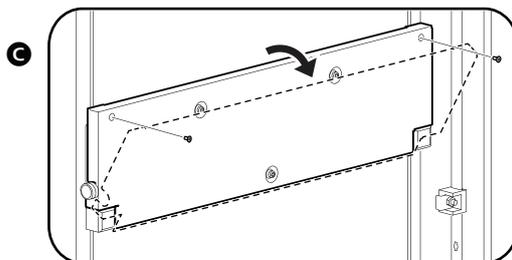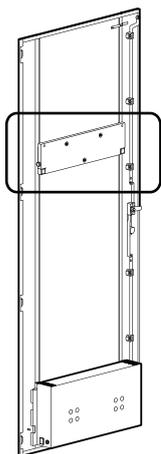
5. Remove the three Phillips head screws securing the display to the plate **D**.
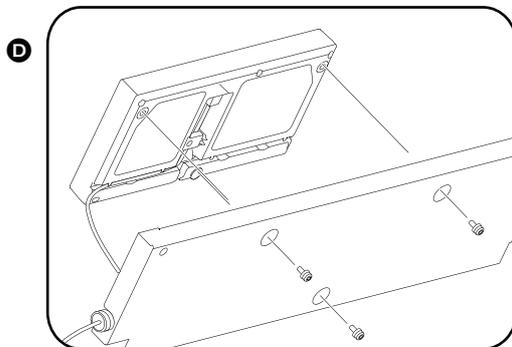
6. Remove the cable bracket and retain the bracket screw. Remove the micro-HDMI cable from the display and set the display aside **E**.
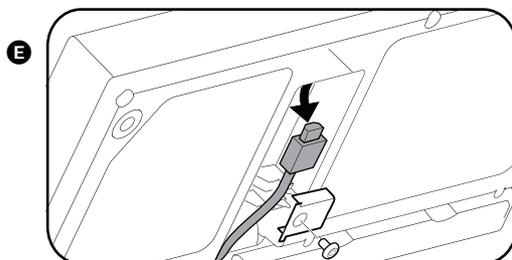
7. Route the NetBotz Handle wire through the display plate **F**. You can use the support brackets on the door rods for additional cable management **G**.
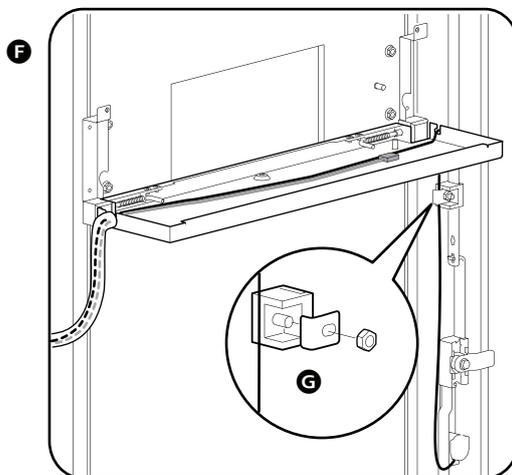
8. Route the NetBotz handle wire through the brush strips and cable bridge to the rear of the rack (**H**). Connect the wire to a Handle port* on the NetBotz 250. If needed, use the RJ45 coupler (included with the handle kit) to connect the handle wire to a Cat 5 patch cable. You can wrap excess cable length around the front display.

H To NetBotz

HDMI connection to Front Display

ns3053e
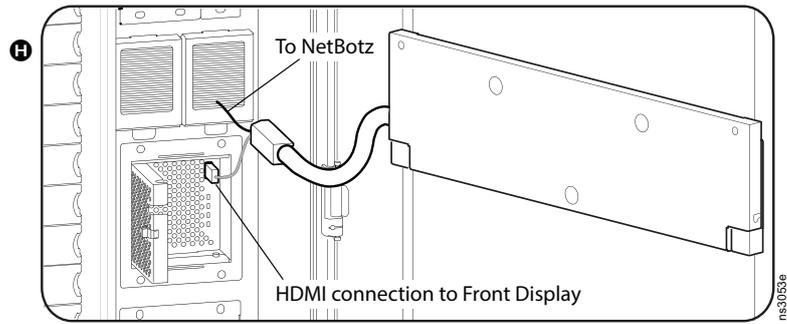
9. Re-connect the HDMI cable and secure the cable bracket on the front display (see item **E** above). Then secure the front display to the display plate with the provided screws (see item **D** above).

10. Close the display plate and secure it to the door.

11. Perform steps 1–3 for the rear door. Connect the wire to a Handle port* on the NetBotz 250.

*See NetBotz 250, page 34 for port locations.

Power Up

⚡⚠ DANGER
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH
• Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
• Only certified electricians are authorized to install the mains power connection.
• The mains power connection must be installed in accordance with the National Electrical Code and all applicable local codes.
• Perform appropriate Lock Out/Tag Out procedures during equipment installation and maintenance.
• Wear appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E and follow all local codes and regulations.
Failure to follow these instructions will result in death or serious injury.

Before applying power to the EcoStruxure Micro Data Center, you must install an appropriate connection to mains power. Install a 3C x 16 square mm power cord with IEC 309 63A, 2P + E, 6h terminators and wall socket. If needed, Schneider Electric offers the PratiKa wander plug (81378) and Industrial socket (81278).

Initial Check

Before applying power to the EcoStruxure Micro Data Center, ensure the system is configured correctly.

1. Ensure the EcoStruxure Micro Data Center is properly connected to the Building Common Bonding Network and that all grounding straps are properly connected. (See Ground the Cabinet, page 39.)
2. Turn off all circuit breakers on the power panel.
3. Verify the wiring to power sources A and B is correctly configured.

Connect Power Sources

This procedure is out of scope for Schneider Electric service personnel.

Breaker Positions

Off   On
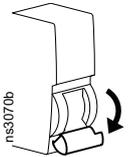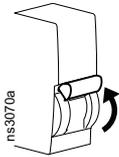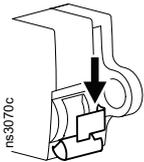
Locked   Unlocked
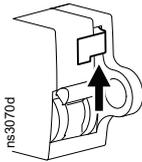
1. Ensure all the power panel breakers are off.

2. Ensure all the equipment included in your EcoStruxure Micro Data Center is installed and all power and communication connections have been made correctly. Do not install servers or networking equipment. See for details.

3. Ensure the EcoStruxure Micro Data Center is grounded to the building Common Bonding Network. See Ground the Cabinet, page 39 for details.

4. Connect power sources **A** and **B** to the power inputs as shown.
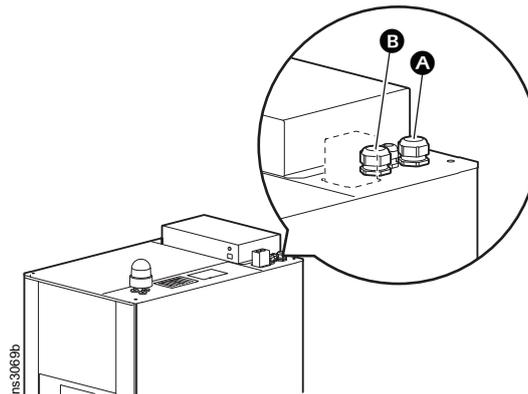
NOTE: See Preparation, page 35 for power connection requirements.

Initial Start Up Sequence

NOTICE
HAZARD OF EQUIPMENT DAMAGE
• Before starting up the EcoStruxure Micro Data Center, perform all required commissioning checks, leak detection, and vacuum pumping procedures as directed in the documentation for your Cooling Unit.
• Never turn on Q7 and Q8 at the same time.
• Never turn on Q9 or Q5 when Q3 is on.
• Never turn on Q10 or Q6 when Q4 is on.
Failure to follow these instructions can result in equipment damage.

Breaker Positions

Off   On

ns3070b   ns3070a

Locked   Unlocked

ns3070c   ns3070d
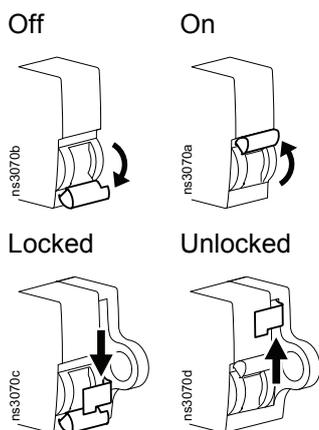
1. Apply power to circuit A (powered by Source A).

   a. Ensure Q3 is Off and Locked.

   b. Turn on Q1. Ensure the screen and the Status LED on the Energy Meter illuminate.

   c. Turn on Q5. Follow the startup procedure in your UPS manual. (See Documentation, page 10 for document part numbers).

   For SRT6KRMXLI, you must configure the NMC Serial Modbus settings to allow communication with the front display:
   ID = 7, Baud rate = 9600 bps, Parity = None

   Follow the instructions in the *Command Line Interface Guide* (990-91149C-XXX) to access the CLI through a serial connection (Local access to the command line interface). Then use the **modbus** command to enable Modbus Serial and configure the settings.

   Alternatively, you can configure temporary TCP/IP settings for the NMC and use the Web UI to configure the Modbus Serial settings. See the NMC *Installation Manual* (990-9996J-XXX) and *User Guide* (990-91148E-XXX) for detailed instructions. This option requires an Ethernet connection to the Network port on your NMC. Once Modbus communication is established, the front display will provide a network connection and you can disconnect the Ethernet cable.

   d. Turn on Q9.

   e. **NOTE:** Skip this step if your power panel is in Configuration 3.

   Turn on Q7. Check that the fans on the Indoor and Outdoor Cooling Units turn on, and that the air coming out of the Indoor Unit is cooler than air going into it. Follow all the checklists in the commissioning section of your cooling manual (990-6186-XXX).

f. Turn on Q11. Ensure the front display illuminates.

If you have installed an ATS, ensure the Input Connector LEDs for source A (Ⓐ) and the power LED for the NetBotz Rack Monitor 250 (Ⓑ) illuminate.
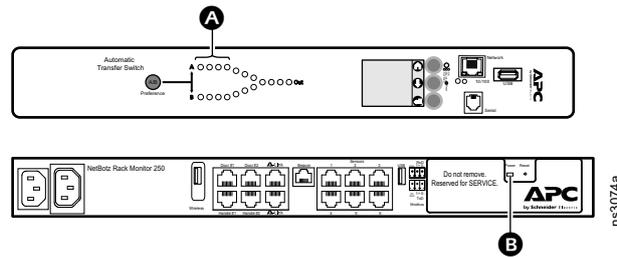
NOTE: Remove the side panel (Side Panels, page 40) to view the front of the ATS.

g. Turn on Q13 breaker. Ensure Rack PDU A is receiving power. If the Rack PDU has a front panel display, the screen should illuminate.

If the NetBotz Rack Monitor 250 is connected to Rack PDU A, ensure the power LED illuminates.

h. Turn on Q15 breaker. Open the front and rear doors. The cabinet lights should illuminate when the doors are open.

2. Apply power to circuit B (powered by Source B)

a. Turn on Q2.

b. Unlock and turn on Q4.

c. Turn on Q12.
    If you have installed an ATS, ensure the Input Connector LEDs for source B (Ⓐ) illuminate.
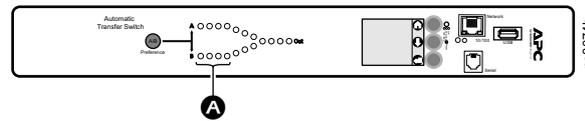
NOTE: Remove the side panel (Side Panels, page 40) to view the front of the ATS.

d. **NOTE:** Skip this step if your power panel is in Configuration 1 or 2.

Turn on Q8. Check that the fans on the Indoor and Outdoor Cooling Units turn on, and that the air coming out of the Indoor Unit is cooler than air going into it. Follow all the checklists in the commissioning section of your cooling manual (990-6186-XXX).

3. If Rack PDU B is installed, turn on Q14. Ensure Rack PDU B is receiving power. If the PDU has a front panel display, the screen should illuminate.

NOTE: Q14 may be powered by circuit A or circuit B. See How the Power Panel Works, page 24 for more information.

4. Configure the Energy Meter. See Configure the EM3510 Energy Meter, page 70.

5. Follow the instructions in your equipment documentation to do the following:
    • Ensure that the Rack PDU, UPS, ATS, and Indoor Cooling Unit receive IP addresses.

    • If needed, configure settings in the Rack PDU and ATS through the Rack PDU and ATS interfaces.

    • Connect power to the Outdoor Cooling Unit and perform any necessary commissioning checks on the cooling equipment.

See Documentation, page 10 for a list of applicable manuals.

6. If needed, configure the Cooling Unit and UPS settings through the the Micro Data Center interfaces. See Front Display, page 72 or the *User Guide* on www. apc.com or www.se.com for more information.

Configuring Subsystems

Subsystem Overview

SI.No	Sub-system	Type	Modbus Slave ID
1	Cooling	3.5 kW Rack mounted Unit	2
2	UPS	SRT	7
		SRV	9
3	NetBotz 250	Not Applicable	11
4	Energy Meter	IEM3510	15

Configuring Modbus IDs for Cooling

You must configure the slave ID of the Cooling Unit for it to function in the EcoStruxure Micro Data Center.

1. Remove the cover from the connections box.
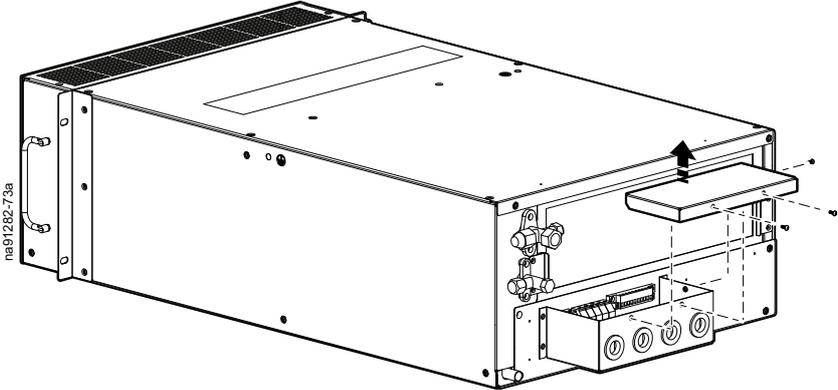
2. Connect the RS485 converter cable to the leftmost RS485 ports on the Indoor Cooling Unit **B**.
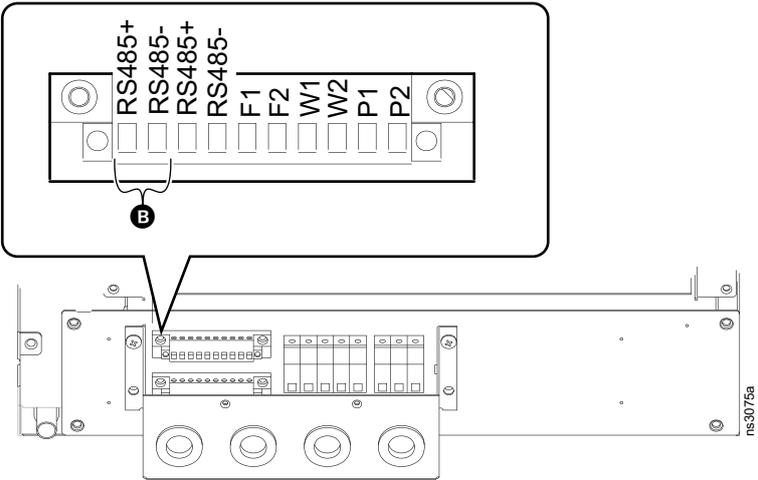
NOTE:

   a. Connect the B, - pin of the RS485-USB converter cable to leftmost RS485- port of Indoor Cooling Unit.

   b. Connect the A, + pin of the RS485-USB converter cable to leftmost RS485+ port of Indoor Cooling Unit.

3. Connect the USB side of the converter cable to a laptop and start the Modbus Poll software.

4. In Modbus Poll, select **Menu > Connection > Connect**.
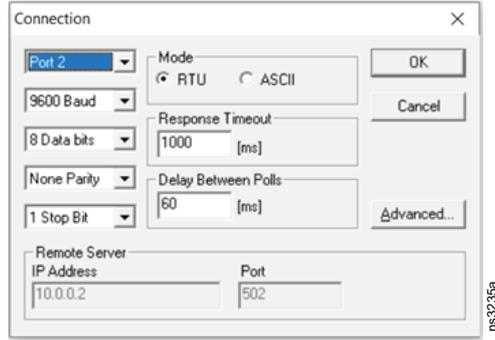
- Select the port number for the Cooling Unit. On a Windows operating system, you can obtain the port number by checking the **Device Manager** for a new port under **Ports (COM & LPT)**. The new port represents the Cooling Unit.

- Set the following settings: 9600 Baud, 8 data bits, No Parity, 1 Stop Bit, Mode = RTU.

5. From the menu, select **Functions > Write Registers**. Enter the following settings: **Slave ID** = 2, **Address** = 215, **Size** = 1.

   NOTE: The standard slave ID for cooling is 1, but you must change it to 2 for communication with the Local Touchscreen Display Interface. If the **Size** is not 1, the Cooling Unit may not communicate with the Local Touchscreen Display Interface (EMDC42UP1 only) or the Modbus tool.
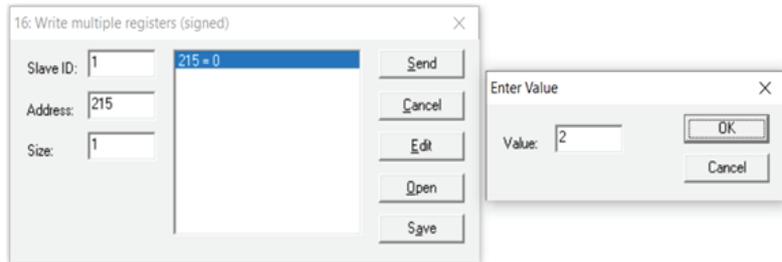
Double-click **215 = 0**. The **Enter Value** dialogue box appears. Enter 2 in the **Value** field, then select **OK**. In the **Write multiple registers (signed)** dialogue box, select **Send**.

6. From the menu, select **Setup > Poll Definition**. Set the following settings as shown: **Slave ID** = 2, **Function** = 003 Read Holding Registers, **Address** = 215, **Length** = 1, **Scan Rate** = 1000, **Auto Read Enable** = selected. Then select **OK**.
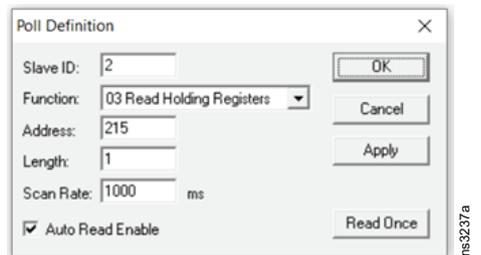
   NOTE: The reply must be 2. If you get a different reply, the Cooling Unit will not communicate with the EcoStruxure Micro Data Center. A **Lost Comm** alarm will appear in the front display of the EcoStruxure Micro Data Center upon startup.

   Ensure the Modbus Poll software is not displaying any error messages.

7. Reboot the Cooling Unit. Then open Modbus Poll and navigate to **Setup > Poll Definition**. Check that the **Slave ID** is as you set it at 2.

   NOTE: If the Cooling Unit does not retain its configuration, the cause may be the Cooling Unit hardware or controller firmware. Contact customer support at www.apc.com for help.

Configure the UPS Modbus ID

The EcoStruxure Micro Data Center application supports SRT and SRV UPS models.

SRT Modbus ID Configuration

1. A Network Management Card 3 (NMC3, part number = AP9643) should be installed in the UPS SmartSlot. Use the Micro-USB configuration cable (960–0603) to connect the Console Port of the NMC3 to your laptop.

2. Open a serial connection to your terminal program (for example, HyperTerminal, TeraTerm, or PuTTY) and configure the selected port for 9600 bps, 8 data bits, 1 stop bit and no flow control.

3. Press **Enter**, repeatedly if necessary, to display the `User Name` prompt. Enter **apc** for the user name and password. If this doesn't work, ask the customer for the correct user name and password.

4. Set the modbus settings:

   • To enable modbus, enter `modbus -a enable`.

   • To set the slave ID for an SRT model, enter `modbus -s 7`.

   • Set the baud rate: enter `modbus -br 9600`

   • Set the parity: enter `modbus -pr none`

   • Set the mode: enter `modbus -m 8n1`

   The response code for each command should be `E000: Success`.

   NOTE: In the command console, you can enter `?` or `help` to see the list of available commands. Enter `modbus ?` to see the options for the modbus command.

5. Verify the settings: enter `modbus`. The response should be as follows:

```
apc>modbus
E000: Success

Slave Address = 0x7
Status = ENABLED
Buad Rate = 9600
Parity/Stop Bits Mode = NONE (8, N, 1)
TCP Status = DISABLED
TCP Port Number = 502
TCP Communication Timeout = 5 secs
Keep-alive = ENABLED
```

SRV Modbus ID Configuration
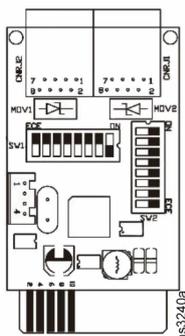
You must configure the Modbus card (SRVSMB001) before installing it in the SRV UPS. See the Modbus card *Installation Manual* (990-9286) to configure the following settings:

• SW1: Bits 1 and 4 are ON on SW1. All other bits are OFF. This ensures that ID = 9.

• SW2: Bits 1 and 4 are OFF on SW2. All other bits are ON. This ensures the following:

   ◦ Baud rate = 9600 (bit 1 is OFF and bit 2 is ON).

   ◦ Parity check = No parity check, 1 stop bits (bits 3 is ON and bit 4 is OFF).

   ◦ RS485 Resistance Configuration = Enable (bits 5, 6, 7, and 8 are ON on SW2).

See your UPS *Installation Manual* for instructions to install the Modbus card in your UPS.

Configure the NetBotz 250 Modbus ID

NOTE: Some options under `modbus` command (for example, `Parity`) are not available because the firmware is customized for the EcoStruxure Micro Data Center.

1. Remove the plate on the NetBotz Rack Monitor 250 that covers the console and network port. The plate is labeled "Do not remove. Reserved for SERVICE."

2. Connect the USB A–USB mini B configuration cable to the Console Port of the NetBotz 250.

3. Open a serial connection to your terminal program (for example, HyperTerminal, TeraTerm, or PuTTY) and configure the selected port for 9600 bps, 8 data bits, 1 stop bit, and no flow control.

4. Press **Enter**, repeatedly if necessary, to display the `User Name` prompt. Enter **apc** for the user name and password. If this doesn't work, ask the customer for the correct user name and password.

5. Set the modbus settings:

   • To enable modbus, enter `modbus -a enable`.

   • Set the slave ID: enter `modbus -s B`.

   • Set the baud rate: enter `modbus -br 9600`

   The response code for each command should be `E000: Success`.

   NOTE: In the command console, you can enter `?` or `help` to see the list of available commands. Enter `modbus ?` to see the options for the modbus command.

6. Verify the settings: enter `modbus`. The response should be as follows:

   ```
   apc>modbus
   E000: Success

   Slave Address = 0xB
   Status = ENABLED
   Buad Rate = 9600
   Parity/Stop Bits Mode = NONE (8, N, 2)
   TCP Status = DISABLED
   TCP Port Number = 502
   ```

7. Enter `Reboot` to reboot the NetBotz 250.

Configure the EM3510 Energy Meter

You must configure the wiring type and communication settings. The following settings are optional, or may depend on the situation/setting:

- Frequency (default it is at 50 Hz)
- Date (Looks like this is not retained after reboot)
- Time (Looks like this is not retained after reboot)
- Contrast
- Reset Config
- Exit Config

Some settings can be set manually, while others must be selected from a list. To select a value from a list, use the up and down arrow buttons on the energy meter to scroll through the list and press **OK** to proceed to the next value. To configure a setting manually, use the up and down arrow buttons to scroll through numeric values, then press **OK** to proceed to the next digit.

You can find more detailed information in the Energy Meter *User Guide*, DOCA0005EN-12.

1. On the Energy Meter, simultaneously press and hold the **OK** and **ESC** buttons for about 2 seconds.

2. The first parameter to be displayed is **Wiring Type**. Press **OK** to modify this parameter. The default setting is **3PH4W**. Press the down button until you get **1PH2W L-N**, then press **OK**.

3. The next parameter is **Frequency**. Press **OK** to modify this parameter. Select the correct frequency for your system, then press **OK**.

4. The next parameter is **Date**. Change this parameter to the current date.

5. The next parameter is **Time**. Change this parameter to show the current time.

6. The next parameter is **Communication**. Press **OK** to modify this parameter.

    a. The first sub-option is **Slave Address**. Set the value to 015 and press **OK**.

    b. The second sub-option is **Baud Rate**. Set the value to 9600 and press **OK**.

    c. The third sub-option is **Parity**. Set the parity to NONE and press **OK**.

7. The next parameters are **Contrast**, **Reset Config**, and **Exit Config**. Modify each setting as needed, or press **ESC** to continue to the next setting.

    NOTE: If the Energy Meter is power cycled, the **Time** and **Date** values are reset to default.

Install Your Equipment

1. If you have side-suction network equipment near the top of the rack, remove inner blanking panels (❷) as needed for appropriate airflow. The perforated 1-U blanking panel will then allow the side-suction to draw cold air from the front of the cabinet. (See Cable Routing Options, page 17 for instructions to remove the interior blanking panels).

   NOTE: You can also remove knockouts from inner blanking panels as needed for airflow or cable access.

2. Install your equipment from the bottom up, with heavier equipment at the bottom for maximum stability. The bottom 24 U spaces are reserved for server equipment. The top 14 U spaces are configured with cable management features to support networking equipment. Always review the equipment manufacturer's installation instructions before insta.

   NOTE: Equipment attached to the ATS should not draw more than a combined total of 15 A.

3. Adjust the remaining blanking panels for proper airflow.

   • Move the remaining blanking panels (❶) to fill the unoccupied mounting spaces.

   • If you do not have any UPS batteries installed, move the top rear blanking panel to the bottom front UPS mounting space (❸).

Front view   Rear view
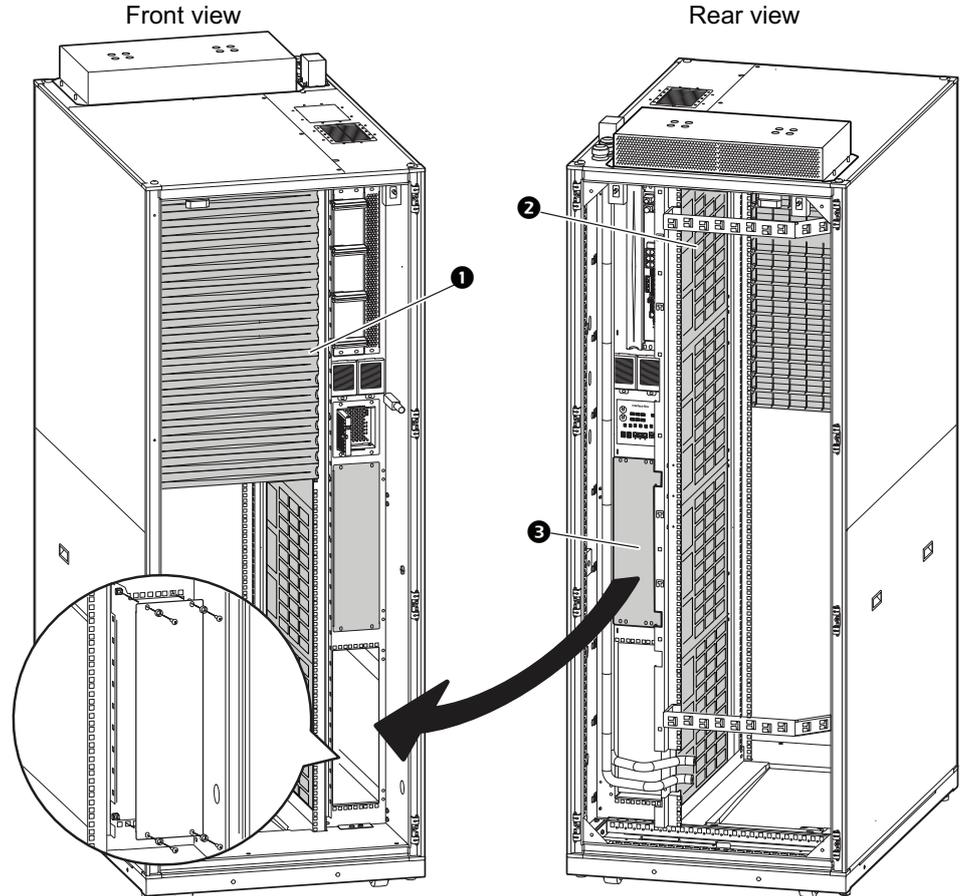
Front Display

Front Display

You can use the front display to monitor the NetBotz Rack Monitor 250 and devices connected to it, the UPS, Cooling Unit, and the Energy Meter.
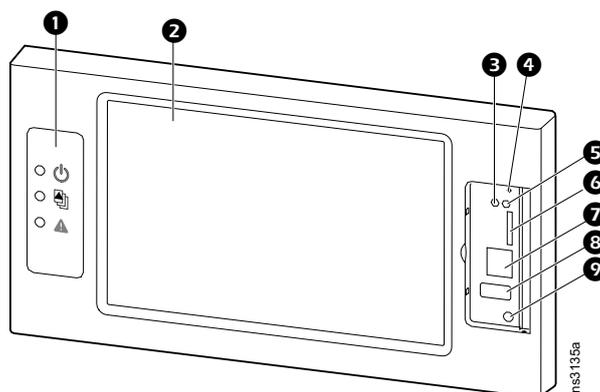
Item	Description
❶	Informational Light-emitting Diodes (LEDs)
❷	Touch-screen
❸	Status LED (see Status LED, page 73)
❹	Display reset button
❺	Link (10/100) LED (see Link (10/100) LED, page 73)
❻	Reserved for service
❼	Reserved for service
❽	Reserved for service
❾	Serial console port — used to access the CLI

Informational LEDs

⏻	Power LED • Green: The display is receiving power from Source A and Source B. • Orange: The display is receiving power from Source B. Source A has experienced an outage. • Red: The display is receiving power from Source A. Source B has experienced an outage.
▲	Check log LED: When the LED is illuminated, a new entry has been made in the event log.
⚠	Alarm LED: When the LED is illuminated, there is at least one alarm condition in the system. In the case of multiple alarms, the LED reflects the most severe alarm present. • Red: Critical alarm • Orange: Warning alarm • Off: No alarm

Status LED

Condition	Description
Off	One of the following situations exists: • The system is not receiving input power. • The system is not operating properly. It may need to be repaired or replaced. Contact Customer Support at www.apc.com/support.
Solid green	The system has valid TCP/IP settings.
Solid amber	A hardware issue has been detected. Contact customer support.
Blinking green	The system does not have valid TCP/IP settings.
Blinking amber	The system is making a boot request.
Alternately flashing green and amber	If the LED is flashing rapidly, the system is starting up. If the LED is flashing slowly, the system is waiting for a DHCP server to assign valid TCP/IP settings.

Link (10/100) LED

Condition	Description
Off	One or more of the following situations exist: • The system is not receiving input power. • The cable that connects the system to the network is disconnected or not functioning properly. • The system is turned off or not operating correctly. Contact Customer Support at www.apc.com/support.
Solid green	The system is connected to a network operating at 10 Megabits (Mb) per second.
Solid orange	The system is connected to a network operating at 100 Mb per second.
Blinking green	The system is receiving or transmitting data packets at 10 Mb per second.
Blinking orange	The system is receiving or transmitting data packets at 100 Mb per second.

Initial Configuration

You must set the password through a serial connection to the CLI before configuring any settings on the Micro Data Center.

Once the password is set, you can

- Configure the TCP/IP settings through a serial connection to the CLI, Device IP Configuration Wizard, or front display to enable remote access to the CLI and Web UI.

- Configure your EcoStruxure IT account to monitor the Micro Data Center.

Once the password is set, you must configure the TCP/IP settings to access the Web UI or to access the CLI remotely. To access the Web UI, you must also enable the Web UI through the front display.

To set the password:

> **NOTE:** (text in *italics* indicates a variable)

1. Select a serial port on the local computer and disable any service that uses that port.

2. Use the provided console cable (940-0299) to connect the selected serial port to the serial on the front of the display.

3. Run a terminal program (such as HyperTerminal®, TeraTerm, or PuTTY) and configure the selected port for 9600 bps, 8 data bits, no parity, 1 stop bit, and no flow control.

4. Press **ENTER**, repeatedly if necessary, to display the **User Name** prompt.

5. Enter **apc** for the user name and password. When prompted, enter a new password that conforms to your company's password requirements.

6. If you do not plan to configure the TCP/IP settings through the CLI, log off. Type `quit` or `exit`, reconnect any serial cable you disconnected, and restart any service you disabled.

   If you plan to set TCP/IP settings through the CLI, see CLI Configuration, page 75

To set the TCP/IP settings through the Device IP configuration Wizard, see Device IP Configuration Wizard, page 76.

To set the TCP/IP settings through the front display, see Operation, page 77.

To enable the Web UI, see Web Access, page 81 under Operation, page 77.

You can also monitor the Micro Data Center through EcoStruxure IT. Consult your EcoStruxure IT documentation at helpcenter.ecostruxureit.com for instructions. Then consult the EcoStruxure Micro Data Center C-Series *User Guide* on www.apc.com or www.se.com for instructions to enable the appropriate settings.

CLI Configuration

To set the TCP/IP 4 settings from the CLI:

1. Contact your network administrator to obtain the IP address, subnet mask, and default gateway for the Network Management Card (NMC).

2. Use these three commands to configure network settings:

   `tcpip -i` *yourIPaddress* (The IP address of the NMC)

   `tcpip -s` *yourSubnetMask* (The subnet mask of the NMC)

   `tcpip -g` *yourDefaultGateway* (The IP address of the default gateway)

   For each variable, enter a numeric value with the format xxx.xxx.xxx.xxx. For example, to set a system IP address of 156.205.14.141, enter the following command and press **ENTER**:

   `tcpip -i 156.205.14.141`

3. Enter `reboot`. The NMC restarts to apply the changes.

   NOTE: If a default gateway is unavailable, use the IP address of a computer that is located on the same subnet as the NMC and is usually running. The NMC uses the default gateway to test the network when traffic is very light.

   NOTE: Do **NOT** use the loopback address (127.0.0.1) as the default gateway. Doing so will disable the NMC. To enable the NMC again, you must log on using a serial connection and reset the TCP/IP settings to their defaults.

   For detailed information on how to use a DHCP server to configure the TCP/IP settings, see **DHCP Response Options** under .

To set the TCP/IP 6 settings from the CLI:

1. Contact your network administrator to obtain the IP address, subnet mask, and default gateway for the Network Management Card.

2. Use these three commands to configure network settings manually:

   `tcpip6 -man enable`

   `tcpip6 -i` *yourIPaddress* (The IP address of the NMC)

   `tcpip6 -g` *yourDefaultGateway* (The IP address of the default gateway)

3. For each variable, enter a numeric value with the format xxx.xxx.xxx.xxx. For example, to set a system IP address of 156.205.14.141, enter the following command and press **ENTER**:

   `tcpip6 -i 156.205.14.141`

4. Enter `reboot`. The NMC restarts to apply the changes.

Device IP Configuration Wizard

The Device IP Configuration Wizard is used to discover and configure Network Management Cards that do not have IP addresses assigned. The Device IP Configuration Wizard runs on Microsoft® Windows® 2000, Windows 2003, Windows Server® 2003, Windows Server 2012, and on 32- and 64-bit versions of Windows XP, Windows Vista, Windows 2008, Windows 7, Windows 8, Windows 10, and Windows 2012 operating systems.

The Device IP Configuration Wizard supports network management cards that have firmware version 3.x.x or higher and is for IPv4 only.

NOTE: Most software Firewalls must be temporarily disabled for the Wizard to discover Network Management Cards that are not configured.

To configure one or more Network Management Cards from a user configuration file, see the *User Manual* or *Online Guide*.

1. Download the Device IP Configuration Wizard from www.schneider-electric.com or www.apc.com (search for "Device IP Configuration Wizard").

2. Install and run the Device IP Configuration Wizard.

3. Follow the on-screen instructions.

NOTE: If the option **Start a Web browser when finished** is enabled, the word apc (the default) can be used for both the user name and password.

NOTE: For systems with AOS 6.8.X or later, you must enable SNMPv1 and set the community name to public before the Device IP Configuration Wizard can discover the EcoStruxure Micro Data Center.

Operation

Display Icons

Symbol	Description
🏠	The locked home button appears when the system is locked by a password protection. Tap this button to go to the home screen of the display.
🏠	The unlocked home button appears when the system has been unlocked using the password. Tap this button to go to the home screen of the display.
OK	Tap the OK button to confirm your selections and exit the current screen.
ESC	Tap the ESC button to cancel your changes and exit the current screen.
⊽	Tap the filter button to set up the filters for your logs.
🗑	Tap the recycle bin button to clear the log.
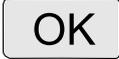
Access Password-protected Screens

When prompted for the password, select your user name. Then enter the **Pin** for that user name.

NOTE: The default pin is **1234**.

It is recommended that you change the default PIN on first use. Go to **Configuration > Display > Security > Edit User**. Select **apc** from the **Name** drop-down list. Then enter a new pin in the **Pin** and **Confirm Pin** fields.

NOTE: The pin will not work until you set the Super User password. See to set the password.

Network Configuration

Once you have configured the appropriate network settings, you can access the EcoStruxure Micro Data Center through the Web User Interface (Web UI) and Command Line Interface (CLI).

To enable access through the Web UI, configure TCP/IPv4 settings and/or TCP/IPv6 settings (see and).Then configure Web Access (see).

To enable access through the CLI, configure TCP/IPv4 settings and/or TCP/IPv6 settings (see and).

TCP/IPv4

Configuration > Network > TCP/IPv4

```
┌─────────────────────────────────────────────────────────┐
│  ┌──┐                                                     │
│  │⌂ │  Configuration   Network   TCP/IPv4                 │
│  └──┘                                                     │
│                                                           │
│  ☑ Enable IPv4                                            │
│                                                           │
│  Address Mode                                             │
│     ┌─┬──────────┬─┐                                      │
│     │V│   DHCP    │Λ│      10.179.228.77                  │
│     └─┴──────────┴─┘                                      │
│        ☐ Require vendor specific cookies to accept DHCP   │
│                                                           │
│        Manual Settings                                    │
│                                                           │
│        System IP         ┌──────────┐                     │
│                          │ 0.0.0.0  │  0.0.0.0            │
│                          └──────────┘                     │
│        Subnet Mask       ┌──────────┐                     │
│                          │ 0.0.0.0  │  0.0.0.0            │
│                          └──────────┘                     │
│        Default Gateway   ┌──────────┐                     │
│                          │ 0.0.0.0  │  0.0.0.0            │
│                          └──────────┘                     │
│                                         ┌─────┬──────┐    │
│                                         │ ESC │  OK  │    │
│                                         └─────┴──────┘    │
└─────────────────────────────────────────────────────────┘
```

Setting	Description
Enable IPv4	Enable or disable IPv4 with this check box.
Manual	Configure IPv4 manually by entering the **System IP**, **Subnet Mask**, and **Default Gateway** in the appropriate fields.
DCHP	The default setting. At 32-second intervals, the system requests network assignment from any DHCP server. • If the system receives a valid response, it does not require the APC cookie from the DHCP server in order to accept the lease and start the network services. • If the system finds a DHCP server, but the request to that server fails or times out, it stops requesting network settings until it is restarted. **Require vendor specific cookie to accept DHCP**: By selecting this check box, you can require the DHCP server to provide a cookie which supplies information to the system. See the *User Guide* for more information on DHCP.
BOOTP	A BOOTP server provides the TCP/IP settings. At 32-second intervals, the system requests network assignment from any BOOTP server: • If the system receives a valid response, it starts the network services. • If the system finds a BOOTP server, but a request to that server fails or times out, the system stops requesting network settings until it is restarted. • By default, if previously configured network settings exist, and the system receives no valid response to five requests (the original and four retries), it uses the previously configured settings so that it remains accessible.

TCP/IPv6

Configuration > Network > TCP/IPv6

```
┌──────────────────────────────────────────────────────────────────┐
│  ⌂   Configuration   Network   TCP/IPv6                            │
├──────────────────────────────────────────────────────────────────┤
│  ☑ Enable IPv6                                                     │
│                                                                    │
│  ☑ Auto Configuration                              [ Addresses ]   │
│                                                                    │
│  ☐ Manual Configuration                                            │
│                                                                    │
│          Manual Settings                                           │
│          System IP            [          ::/64          ]          │
│          Default Gateway      [            ::           ]          │
│                                                                    │
│    DHCPv6 Mode                                                     │
│                                                                    │
│      V │       Router Controlled          │ Λ                      │
│                                              [ ESC ] [ OK ]        │
│                                                              ns3137a│
└──────────────────────────────────────────────────────────────────┘
```

Setting	Description
Enable IPv6	Enable or disable IPv6 with this check box.
Auto Configuration	The system obtains addressing prefixes from the router (if available). It uses those prefixes to automatically configure IPv6 addresses.
Manual Configuration	Configure IPv6 manually by entering the **System IP** and the **Default Gateway** in the appropriate fields.
DHCPv6 Mode	**Router Controlled**: Selecting this option means that DHCPv6 is controlled by the Managed (M) and Other (O) flags received in IPv6 router advertisements. When a router advertisement is received, the system checks whether the M or the O flag is set. The system interprets the state of the M (Managed Address Configuration Flag) and O (Other Stateful Configuration Flag) "bits" for the following cases: • Neither is set: Indicates the local network has no DHCPv6 infrastructure. The system uses router advertisements and manual configuration to get addresses that are not link-local and other settings. • M, or M and O are set: In this situation, full DHCPv6 address configuration occurs. DHCPv6 is used to obtain addresses AND other configuration settings. This is known as `DHCPv6 stateful`. Once the M flag has been received, the DHCPv6 address configuration stays in effect until the interface in question has been closed. This is true even if subsequent router advertisement packets are received in which the M flag is not set. If an O flag is received first, then an M flag is received subsequently, the system performs full address configuration upon receipt of the M flag. • Only O is set: In this situation, the NMC sends a DHCPv6 Info-Request packet. DHCPv6 will be used to configure "other" settings (such as location of DNS servers), but NOT to provide addresses. This is known as `DHCPv6 stateless`. **Address and Other Information**: When selected, DHCPv6 is used to obtain addresses AND other configuration settings. This is known as `DHCPv6 stateful`. **Non-Address Information Only**: When selected, DHCPv6 will be used to configure "other" settings (such as location of DNS servers), but NOT to provide addresses. This is known as `DHCPv6 stateless`. **Never**: Select this to disable DHCPv6.

Web Access

Configuration > Network > Web Access

```
┌─────────────────────────────────────────────────────────────────┐
│ ┌───┐ ┌──────────────┐┌─────────┐┌────────────┐                  │
│ │ 🏠 │ │ Configuration ││ Network ││ Web Access │                 │
│ └───┘ └──────────────┘└─────────┘└────────────┘                  │
│                                                                   │
│ ☑ Enable Web                                                     │
│ ──────────────────────────────────────────────────              │
│ Access Mode                                                       │
│                                                                   │
│    ┌─┬─────────────────────────────────┬─┐                      │
│    │V│             HTTP                 │∧│                      │
│    └─┴─────────────────────────────────┴─┘                      │
│                                                                   │
│    Port            ┌─────────┐    [80, 5000 - 32768]             │
│                    │   80    │                                    │
│                    └─────────┘                                    │
│                                                                   │
│           ┌──────────────────┐                                   │
│           │  Restore Port To  │                                  │
│           │     Default       │                                  │
│           └──────────────────┘                                   │
│                                                                   │
│                                            ┌─────┐┌─────┐         │
│                                            │ ESC ││ OK  │   ns3136a│
│                                            └─────┘└─────┘         │
└─────────────────────────────────────────────────────────────────┘
```

Setting	Description
Enable Web	Enable access to the Web UI.
Access Mode	**HTTP:** Enables Hypertext Transfer Protocol (HTTP), which provides Web access by user name and pin, but does not encrypt user names, pins, or data during transmission. **HTTPS:** Enables Hypertext Transfer Protocol (HTTPS) over Secure Sockets Layer (SSL)/ Transport Layer Security (TLS). SSL and TLS encrypt user names, passwords, and data during transmission, and authenticate the system by digital certificate. When HTTPS is enabled in the Web UI, most browsers display a small lock icon. By default, HTTPS is enabled and HTTP is disabled.
Port	HTTP default port = 80 HTTPS default port = 443 You can change either port setting to any unused port from 5000 to 32768 for additional security. To access the UI in your Web browser, you must enter the system IP followed by a colon (:) to specify the port number. For example, you would enter the following for a port number of 5000 and an IP address of 152.214.12.114: `http://152.214.12.114:5000` or `https://152.214.12.114:5000`

Access the Web UI

You can use the Web UI to monitor the NetBotz Rack Monitor 250 and devices connected to it, the UPS, Cooling Unit, and the Energy Meter.

Most modern Web browsers are compatible with the EcoStruxure Micro Data Center. Use the most recent version of your browser to mitigate the risk of software security vulnerabilities.

1. Enter the system IP address in the Web browser's URL address bar. You can view the IP address from the User Interface on the front door of the EcoStruxure Micro Data Center: select **About > Network**.

   You may receive a message that the Web page is not secure. This is normal when using a self-signed certificate (the default), and you can continue to the Web UI.

   > **NOTE:** Your system comes with a self-signed certificate installed. Browsers generate a security warning because they do not recognize the authority who signed the certificate. You can prevent the warning message by installing a certificate signed by a Certificate Authority (CA) the Web browser recognizes. You can also direct the browser to accept the certificate to prevent the warning. See the *User Guide* on www.apc.com for details.

2. Use your user name and case-sensitive password to log on. The default user name and password for the Super User are both **apc**. The Super User must define the user name and password for Administrators.

   Both the Super User and Administrators must change their passwords at first log on. Use strong passwords that comply with your company's password requirements.

Product Registration

Product Registration is completed by the APC field service engineers. If you have questions about product registration, contact customer support at www.apc.com/support to register your EcoStruxure Micro Data Center.

Maintenance and Support

Maintenance Bypass Procedure

| ⚡⚠ **DANGER** |
|---|
| **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** |
| • Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel. |
| • Perform appropriate Lock Out/Tag Out procedures during equipment installation and maintenance. |
| • Wear appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E and follow all local codes and regulations. |
| **Failure to follow these instructions will result in death or serious injury.** |

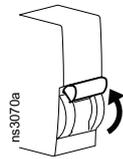| *NOTICE* |
|---|
| **EQUIPMENT DAMAGE** |
| Do not turn on Q3 until the UPS is turned off or in bypass mode. |
| **Failure to follow these instructions can result in equipment damage.** |

Use this procedure to isolate the rack-mount UPS for repair or replacement.

Breaker Positions

Off

On
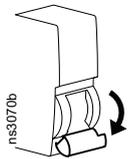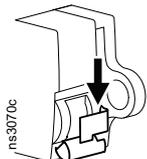
Locked

Unlocked
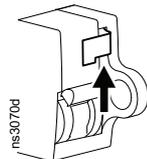
1. Ensure the UPS is in Bypass mode. The UPS automatically switches to bypass mode when it experiences an overload or other power events that may damage it's internal hardware. If it is not already in bypass mode, follow the instructions in the UPS manual to switch the UPS to bypass mode manually.

2. Release the lock on Q3, then turn on Q3.

3. Turn off Q5 and Q9.

4. Turn off the UPS and disconnect it from the power panel.

5. Allow a service engineer to replace or repair the UPS.

6. Install the ups and connect it to the power panel.

7. Turn on Q5 and power on the UPS.

8. Set the UPS to bypass mode. Follow the instructions in your UPS manual.

9. Turn on Q9.

10. Turn off Q3 and lock Q3.

11. Bring the UPS out of Bypass mode. See your UPS manual for instructions.

Replace the Fan Filter

The fan filter slides into the space between the fan and front door. Check the fan filter regularly and replace it as needed to ensure proper airflow.
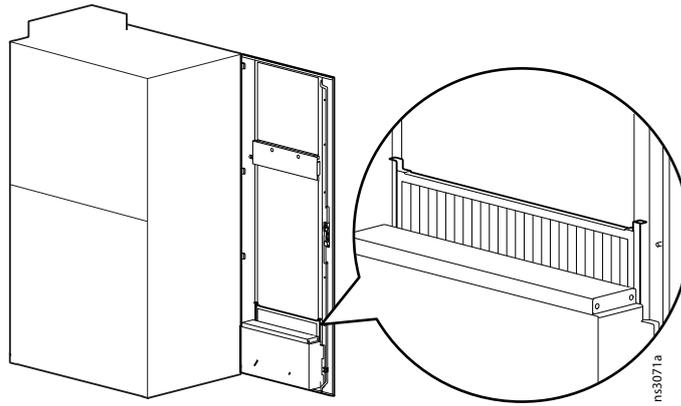
Worldwide Customer Support

Customer support for this product is available on www.apc.com.

Specifications

	AR4340IX500/ AR4340IX500CP (Micro Data Center base SKU)	MDC43UECSI (Easy UPS and Basic Rack PDU)	MDC43UBCSI (EasyUPS and Metered Rack PDU)	MDC43USCSI (Smart UPS and Basic Rack PDU)	MDC43UACSI (Smart UPS and Metered Rack PDU)
Electrical					
Rated input voltage	220–240 VAC, 50/60 Hz				
Rated input current	63 A				
Input connection	3-wire (line, neutral, protective earth)				
Over voltage category	II				
Physical					
Dimensions (H x W x D)	2080 x 800 x 1200 mm (81.89 x 31.5 x 47.24 in)				
Weight	320 kg (705.5 lb)	See table note*			
Static Load Capacity (with leveling feet lowered)	1,000 kg (2204.62 lb)*				
Environmental					
Elevation	0–2,000 m (6,561.68 ft)	See your equipment specifications for limiting environmental factors.			
Interior cabinet temperature, operating	16–40°C (60.8–104 °F)				
Ambient Room Temperature Operating Storage	18–27 °C (64.4– 80.6 °F) continuous, 30 °C (86 °F) maximum -20–40 °C (-4–104 °F)				
Ambient Temperature for Outdoor Cooling Unit	n/a	without Low Temperature Kit: -15–50 °C (5–122 °F) with Low Temperature Kit: -35– -15 °C (-31–5 °F)			
Humidity (cooling unit)	n/a	15–65%, non-condensing			
Pollution Degree	2				
Compliance					
Safety	IEC60950-1 IEC62368-1	—	—	—	—
EMC**	Class A	CISPR 3	CISPR 3	—	—
UPS certification	n/a	SRV6KRIL-IN: BIS SRV6KRIL: CE	SRV6KRIL-IN: BIS SRV6KRIL: CE	SRT6KRMXLI: CE, EAC, IRAM, RCM, VDE	SRT6KRMXLI: CE, EAC, IRAM, RCM, VDE
Rack PDU certifications	n/a	AP7553: CE & iCTC	AP8853: UL-EU	AP7553: CE & iCTC	AP8853: UL-EU
Cooling Unit certifications	n/a	ACRMD4KI, ACRMD4KI-2: CE & CCC	ACRMD4KI, ACRMD4KI-2: CE & CCC	ACRMD4KI, ACRMD4KI-2: CE & CCC	ACRMD4KI, ACRMD4KI-2: CE & CCC

*   The Static Load Capacity is the maximum weight of equipment you can add to the EcoStruxure Micro Data Center after the leveling feet are lowered.

The maximum weight the cabinet can safely hold is 1200 kg (2645.55 lb)—this includes the weight of all pre-installed equipment. The pre-installed equipment weighs about 200 kg (441 lb). You can load an additional 1,000 kg (2204.62 lb)of equipment into the cabinet. Consult the Equipment specifications below to ensure you do not overload the cabinet.

**   AR4340IX500 and AR4340IX500CP comply to the Class A EMC requirements. Class A compliance cannot be guaranteed with the addition of any additional component, device, or equipment. Check the certifications and ratings for all additional equipment before installation.

Equipment Specifications

Cooling

Description	Part number	Weight	Environmental Specifications
3.5 kW rack-mount cooling split system, Indoor unit with gravity drain, 50 Hz	ACRMD4KI-1	26 kg (57.32 lb)	Elevation: 1,000 m (3281 ft), de-rated above 1,000 m (3,281 ft) Humidity: 15–65%, non-condensing Operating Temperature: 16–43 °C (60.8–109.4 °F) Storage Temperature: -20–52 °C (-4.0–129.2 °F)
3.5 kW split system cooling unit, Outdoor unit with pre-charged refrigerant, 50 Hz	ACRMD4KI-2	48 kg (105.8 lb)	Elevation: 1,000 m (3,281 ft), de-rated above 1,000 m (3281 ft) Ambient temperature without Low Temperature Kit: -15–50 °C (5–122 °F) with Low Temperature Kit: -35– -15 °C (-31–5 °F)
Optional: Low Ambient Temperature Kit -35C	ACAC10040	9 kg (19.84 lb)	—
Optional: Condensate drain pump	ACAC10039	1.8 kg (3.97 lb)	—

Rack PDU

Description	Part number	Weight	Environmental Specifications
Rack PDU, Basic, 0 U, 32A, 230V, 20 C13, & 4 C19	AP7553	5.57 kg (12.25 lb)	Operating Temperature: -5–45 °C (23–113 °F) Operating Relative Humidity: 5–95% Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -25–65 °C (-13–149 °F) Storage Elevation: 0–15,240 m (0–50,000 ft)
Rack PDU 2G, Metered, 0 U, 32 A, 230 V, 36 C13, & 6 C19	AP8853	6.93 kg (15.24 lb)	
Rack PDU 2G, Switched, 0 U, 32 A, 230 V, 21 C13, & 3 C19	AP8953	7.59 kg (16.7 lb)	
Rack PDU 2G, Metered-by-Outlet, 0 U, 32 A, 230 V, 21 C13, & 3 C19	AP8453	8.21 kg (18.1 lb)	
Rack PDU 2G, Metered by Outlet with Switching, 0 U, 32 A, 230 V, 21 C13, & 3 C19	AP8653	8.23 kg (18.1 lb)	

UPS

Description	Part number	Weight	Environmental Specifications
SRV			
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack	SRV6KRIL-IN	78.0 kg (171.96 lb)	Operating Temperature: 0–40 °C (32–104 °F) Operating Relative Humidity: 0–95% (non-condensing) Operating Elevation: 0–3,000 m (0–1,0000 ft) Storage Temperature: -20–60 °C Storage Relative Humidity: 0–95% (non-condensing) Storage Elevation: 0–15,000 m (0–50,000 ft)
APC Easy UPS SRV RM 6000 VA 230 V with External Battery Pack	SRV6KRIL	78.0 kg (171.96 lb)	Operating Temperature: 0–40 °C (32–104 °F) Operating Relative Humidity: 0–95% (non-condensing) Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -15–60 °C Storage Relative Humidity: 0–95% (non-condensing) Storage Elevation: 0–15,240 m (0–50,000 ft)
APC Easy UPS 240 V Battery Pack for 5 & 6 kVA Online, Rack, Extended Runtime	SRV240RBP-9A	138.89 lb 63.0 kg ()	**Limiting specifications for SRV equipment:** Operating Temperature: 0–40 °C (32–104 °F) Operating Relative Humidity: 0–95% non-condensing Operating Elevation: 0–457 m (0–1500 ft) Storage Temperature: -15–40 °C (5–104 °F) Storage Relative Humidity: 0–95% non-condensing Storage Elevation: 0–4,572 m (0–15,000 ft)
SRV Modbus card	SRVSMB001	0.03 kg (0.07 lb)	—
APC Easy UPS RAIL KIT, 700 mm	SRVRK1	1.44 kg (3.17 lb)	—
SRT			
APC Smart-UPS SRT 6000 VA RM 230 V	SRT6KRMXLI	60.0 kg (132.0 lb)	Operating Temperature: 0–55 °C (32–131 °F) Operating Relative Humidity: 0–95% (non-condensing) Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -15–45 °C (5–113°F) Storage Relative Humidity: 0–95% (non-condensing) Storage Elevation: 0–15,240 m (0–50,000 ft)
APC Smart-UPS SRT 192 V 5 kVA and 6 kVA RM Battery Pack	SRT192RMBP	91.0 kg (200.2 lb)	**Limiting specifications for SRT equipment:** Operating Temperature: 0–40 °C (32–104 °F) Operating Relative Humidity: 0–95% non-condensing Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -15–45 °C (5–113°F) Storage Relative Humidity: 0–95% non-condensing Storage Elevation: 0–15,240 m (0–50,000 ft)
APC Smart-UPS SRT 19 in Rail Kit for Smart-UPS SRT 5/6/8/10 kVA	SRTRK2	2.73 kg (6.0 lb)	—
UPS Network Management Card 3 w/ Environmental Monitoring and Modbus	AP9643	0.14 kg (0.31 lb)	Operating Temperature: -5–45 °C (23–113 °F) Operating Relative Humidity: 0–95% (non-condensing) Operating Elevation: 0–3,000 m (0–10,000 ft) Storage Temperature: -15–65 °C (5–149 °F) Storage Elevation: 0–15,000 m (0–50,000 ft)

Optional Items

Description	Part number	Weight	Environmental Specifications
NetBotz Handles	NBHN125/ NBHN1356	—	Operating Temperature: 0–45 °C (32–113 °F) Operating Relative Humidity: 0–95% Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -15–65 °C (5–149 °F) Storage Elevation: 0–15,240 m (0–50,000 ft)
Automatic Transfer Switch, 20A/208V, 16A/230V, C20 IN, 8 C13 1 C19 OUT	AP4423	3.74 kg (8.25 lb)	Operating Temperature: -5–45 °C (23–113 °F) Operating Relative Humidity: 5–95% Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -25–65 °C (-13–149 °F) Storage Elevation: 0–15,240 m (0–50,000 ft)
17" Rack LCD Console with Integrated 8 Port Analog KVM Switch	AP5808	13.77 kg (30.36 lb)	Operating Temperature: 0–40 °C (32–104 °F)
Power Cord Kit 6 ea, Locking, C19 to C20, 0.6 m	AP8712S	1.12 kg (2.47 lb)	Operating Temperature: 0–75 °C (32–167 °F) Operating Relative Humidity: 20–80% Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -25–75 °C (-13–167 °F) Storage Elevation: 0–15,240 m (0–50,000 ft)
Power Cord Kit 6 ea, Locking, C13 to C14, 0.6m	AP8702S-WW	0.7 kg (1.53 lb)	Operating Temperature: 0–70 °C (32–158 °F) Operating Relative Humidity: 20–80% Operating Elevation: 0–3,048 m (0–1,0000 ft) Storage Temperature: -25–75 °C (-13–167 °F) Storage Elevation: 0–15,240 m (0–50,000 ft)
APC 1U 19" Black Modular Toolless Blanking Panel - Qty 10	AR8136BLK	0.09 kg (0.2 lb)	—
Horizontal Cable Manager, 1U x 4" Deep, Single-Sided with Cover	AR8602A	0.89 kg (1.95 lb)	—
Fire suppression system	ARFS600	15.6 kg (34.4 lb)	Operating Temperature: 0–50°C Operating Humidity: 0 to 95% (non-condensing)

Radio Frequency Interference

Warning: This equipment is intended to be used in a commercial environment. Operation in a residential area may cause harmful radio interference. The user will bear sole responsibility for correcting such interference.

Warranty

The following warranty applies to only AR4340IX500/AR4340IX500CP. Additional products included in MDC43USCSI, MDC43UACSI, MDC43UECSI, and MDC43UBCSI are covered by separate warranties. You can find additional support and warranty information on www.apc.com or www.se.com.

One-year Factory Warranty

The limited warranty provided by Schneider Electric in this Statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

Terms of Warranty

Schneider Electric warrants its products to be free from defects in materials and workmanship for a period of one year from the date of purchase. The obligation of Schneider Electric under this warranty is limited to repairing or replacing, at its sole discretion, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence or misapplication or has been altered or modified in any way. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

Non-transferable Warranty

This warranty extends only to the original purchaser who must have properly registered the product. The product may be registered at www.apc.com.

Exclusions

Schneider Electric shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user's or any third person's misuse, negligence, improper installation or testing. Further, Schneider Electric shall not be liable under the warranty for unauthorized attempts to repair or modify wrong or inadequate electrical voltage or connection, inappropriate on-site operation conditions, corrosive atmosphere, repair, installation, exposure to the elements, Acts of God, fire, theft, or installation contrary to Schneider Electric recommendations or specifications or in any event if the Schneider Electric serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF PRODUCTS SOLD, SERVICED OR FURNISHED UNDER THIS AGREEMENT OR IN CONNECTION HEREWITH. SCHNEIDER ELECTRIC DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTION AND FITNESS FOR A PARTICULAR PURPOSE. SCHNEIDER ELECTRIC EXPRESS WARRANTIES WILL NOT BE ENLARGED, DIMINISHED, OR AFFECTED BY AND NO OBLIGATION OR LIABILITY WILL ARISE OUT OF, SCHNEIDER ELECTRIC RENDERING OF TECHNICAL OR OTHER ADVICE OR SERVICE IN CONNECTION WITH THE PRODUCTS. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES. THE WARRANTIES SET FORTH ABOVE CONSTITUTE SCHNEIDER ELECTRIC'S SOLE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY BREACH OF SUCH

WARRANTIES. SCHNEIDER ELECTRIC WARRANTIES EXTEND ONLY TO PURCHASER AND ARE NOT EXTENDED TO ANY THIRD PARTIES.

IN NO EVENT SHALL SCHNEIDER ELECTRIC, ITS OFFICERS, DIRECTORS, AFFILIATES OR EMPLOYEES BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION, OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER SCHNEIDER ELECTRIC HAS BEEN ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES. SPECIFICALLY, SCHNEIDER ELECTRIC IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUTES, CLAIMS BY THIRD PARTIES, OR OTHERWISE.

NO SALESMAN, EMPLOYEE OR AGENT OF SCHNEIDER ELECTRIC IS AUTHORIZED TO ADD TO OR VARY THE TERMS OF THIS WARRANTY. WARRANTY TERMS MAY BE MODIFIED, IF AT ALL, ONLY IN WRITING SIGNED BY AN SCHNEIDER ELECTRIC OFFICER AND LEGAL DEPARTMENT.

Warranty Claims

Customers with warranty claims issues may access the customer support network through the Support page, www.apc.com/support. Select your country from the country selection pull-down menu at the top of the Web page. Select the **Support** tab to obtain contact information for customer support in your region.

990-6324B-001